DRAFT
2011 Piru/Fillmore Basins
AB 3030 Groundwater Management Plan

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1 INTRODUCTION

This Groundwater Management Plan ("GMP" or "Plan") is the cooperative effort of United Water Conservation District (UWCD), the City of Fillmore, and water companies/pumpers of the Piru and Fillmore Groundwater basins. The original 1996 GMP was formulated with input gained from public information meetings and hearings. This 2011 GMP is an update of the original 1996 Plan (Piru/Fillmore Groundwater Planning Council, 1996)

The Plan uses the authority of the Groundwater Management Act of the California Water Code (Section 10750, et seq.), enacted in 1992 as Assembly Bill 3030 (AB 3030). A Memorandum of Understanding between UWCD, the City of Fillmore, and the water companies/pumpers, which is incorporated in the Plan in this Section, established this Plan as a cooperative groundwater management plan for the basins, and outlines the roles of the various parties in implementing the Plan (M.O.U., 1995). The Plan was formulated under California Water Code Section 10750.8 as the Piru/Fillmore basins are considered as part of the Ventura Central Basin which is subject to critical conditions of overdraft (California Department of Water Resources, 1980). UWCD, as the lead agency, has formally adopted the Plan. The Plan was formulated to ensure local control of groundwater management. It is the intent of the Plan to foster local control in as many aspects of the management of the basins as possible.

This Plan update includes numeric Basin Management Objectives (BMO) for groundwater levels, groundwater quality, and surface water quality. Senate Bill 1938, enacted in 2002, added section 10753.7 to the California Water Code which requires these basin management objectives for any local agency seeking state funds administered by the California Department of Water Resources for the construction of groundwater projects or groundwater quality projects (Legislative Counsel's Digest, 2002). In addition this update includes a formal groundwater export policy which was a requirement of the original Plan.

1.1 AREA OF PLAN

The Piru and Fillmore groundwater basins are located along the Santa Clara River Valley in Ventura County, California (Figure 1). The area of the Plan includes the portions of the Piru and Fillmore Basins that lie within the UWCD District boundary. The groundwater basin boundaries for the purposes of this Plan are those that are used by UWCD (Figure 2 and Figure 3). This is as opposed to the California Department of Water Resources Bulletin 118 groundwater basin boundaries.

The eastern boundary of the Piru basin as defined by UWCD is approximately 1.7 Santa Clara River stream miles up gradient from the Ventura/ Los Angeles County Line and is located where the alluvium is thin and underlain by non-water bearing rocks. The UWCD District boundary is approximately 3.9 Santa Clara River stream miles up gradient from the Ventura/ Los Angeles County Line. Castaic Lake Water Agency (CLWA) overlies the portion of the Piru basin east of the UWCD boundary and outside of the Plan. The western boundary of the Piru basin is located approximately one mile upstream from the City of Fillmore at the topographic narrows near the Fillmore Fish Hatchery. The narrows are characterized by a reach of persistent discharging or rising groundwater. The Piru basin covers an area of approximately 7,025 acres.

The Fillmore basin is contiguous with and lies west of the Piru basin. The eastern boundary of the Fillmore basin is located approximately one mile upstream from the City of Fillmore at the topographic narrows as discussed in the previous paragraph. A portion of the basin extends to the north and upstream along Sespe Creek near the location of the USGS stream gauging station. The western boundary of the Fillmore basin extends to Willard Road, located just east of the City of Santa Paula. This area is also characterized by an area of persistent discharging or rising water. The area of the Fillmore Basin is approximately 18,580 acres.

1.2 Purpose of the Groundwater Management Plan

In the early 1990s, national efforts by the US Environmental Protection Agency and efforts by the California State Legislature pushed for more comprehensive groundwater management plans. As an alternative to a Federal or State-mandated program, local agencies in California sponsored Assembly Bill 3030 (AB 3030), which is the basis for this Plan. AB 3030 provides a means of giving groundwater management responsibility and authority over local basins to local people. The purpose of this Plan is to establish local management, and to ensure that the Piru and Fillmore basins continue to be a reliable and uncontaminated source of groundwater in the future. The basin management objectives contained in this GMP update are now required for eligibility for state funds administered by the California Department of Water Resources for groundwater or groundwater quality projects. This is outlined in California Senate Bill 1938 which was enacted in 1995 (Legislative Counsels Digest, 2002).

Some aspects of groundwater management have a long history within the groundwater basins of the Santa Clara River in Ventura County. Santa Felicia Dam constructed by UWCD in 1955 on Piru Creek created Lake Piru which has 85,000 acre-feet of storage capacity. Rainfall is captured in Lake Piru and later released into Piru Creek and subsequently into the Santa Clara River where some portion provides recharge to the Piru and Fillmore basins. UWCD also operates 44 acres of artificial recharge basins (Piru Spreading Grounds) near the town of Piru. Water spilling over the dam or released from Lake Piru can be diverted for groundwater recharge into these basins. Pumpers in the Piru and Fillmore basins presently pay a groundwater extraction charge to UWCD for water management and conservation activities within and adjacent to the Piru and Fillmore groundwater basins.

1.3 AGREEMENT

The governance of the Plan was established in a Memorandum of Understanding (Appendix B) between UWCD, the City of Fillmore, and the Pumpers in the Piru and Fillmore basins (M.O.U., 1995). The Agreement consists of:

Authority: UWCD shall, on behalf of the parties to this Agreement, coordinate the implementation and administration of the Plan pursuant to the Groundwater Management Act of 1993. This will be done in cooperation with the City of Fillmore and Pumpers within the portions of the basins that lie within UWCD's boundaries. The Piru and Fillmore Basin Groundwater Management Planning Council ("Council") shall manage the Plan. The Council consists of two City Council representatives from Fillmore, four Pumpers (of which two shall be private pumpers or corporate officers or directors of private pumpers, and two shall be officers or directors of mutual water companies, investor-owned utilities or other water companies), and one elected Board member from UWCD who represents the area (division) of the District overlying the basins.

Modification of the Adopted Plan: After the Plan has been adopted by UWCD, modifications to the Plan may be proposed by any member of the Council. Modifications approved by at least four of the Council members shall be submitted to UWCD for adoption using the following procedures.

UWCD shall hold a hearing to consider adoption of the modifications submitted by the Council. Notice of the hearing shall be given pursuant to Section 6066 of the Government Code. The notice shall include a summary of the Plan and shall state that copies of the modifications may be obtained for the cost of reproduction at the offices of UWCD.

If testimony provided during the hearing process indicates that adoption of the modifications is not warranted, then UWCD shall not adopt the modifications and shall return the proposed modifications to the Council for further review.

If testimony provided during the hearing process demonstrates, to the satisfaction of the UWCD Board, that the proposed modifications should be approved, UWCD may adopt the modifications within 35 days of the conclusion of the hearing.

UWCD shall not adopt modifications to the Plan proposed by the Council unless those modifications have been approved by at least four members of the Council, at least one of which is an overlying user.

Implementation of the Plan: In collaboration with and approval by the Council, UWCD shall adopt rules and regulations to implement and enforce the Plan. Nothing in the Plan, however, shall be construed as authorizing any party to make a binding determination of the water rights of any person or entity. In adopting rules and regulations pursuant to the Plan, UWCD shall consider the potential impact of those rules and regulations on business activities, including agricultural operations. To the extent practicable and consistent with the protection of the groundwater resources, UWCD will minimize any adverse impacts on those business activities.

Plan Administration: UWCD shall, within the financial limitations below, assist the Council in administering the adopted Plan. Such administration shall include assisting with the planning of meetings, preparing meeting documents, mailing notices and newsletters, monitoring key wells in the basins, analyzing trends in water

quantity and quality, and preparing an annual report of groundwater conditions in the basins. UWCD will also assist in preparing any modifications to the adopted Plan.

Plan Management: The Council shall meet at least biannually to coordinate the groundwater management program and consider any changes to the Plan recommended by any member of the Council.

Finances: UWCD's costs for long-term administration of the Plan shall be financed through existing District-wide groundwater extraction fees of UWCD. To the extent that such long-term administration exceeds activities that are already performed by UWCD for other basins within the District, the costs for such administration shall be financed through existing District-wide groundwater extraction fees up to a total of $10,000 per year. Activities that are performed by UWCD in other basins within the District include, but are not limited to, maintaining monitoring wells, periodic measurement of groundwater levels, sampling for surface water and groundwater quality, compilation and analyses of monitoring results, collecting groundwater pumping information related to the District's groundwater extraction fees, and coordinating studies with other public agencies. Activities that UWCD will perform in administering the Plan that exceed those performed in others basins include, but are not limited to, assisting with the planning of Council meetings, preparing Council meeting documents, preparing and mailing newsletters, and preparing an annual report to the Council of groundwater conditions in the basins.

If in the future such administrative costs in excess of normal District activities are greater than $10,000 per year (1995 dollars), or if specific projects are undertaken to implement the Plan, including but not limited to the acquisition of replenishment water, construction of capital facilities or the mitigation of groundwater contamination necessary to implement the coordinated groundwater management plan, or if litigation results from implementation of the coordinated plan, the costs of such administration, projects, or litigation shall be financed through an annual fee or assessment as authorized in sections 10754 and 10754.2 of the California Water Code. Before UWCD may levy a water management assessment under these referenced sections of the California Water Code to fund a specific project undertaken to implement the Plan or to pay for ongoing litigation or otherwise fix and collect fees on behalf of the Council, UWCD, with prior approval by Council, shall hold a general election in the area of the plan on the proposition of whether the District shall be authorized to levy a groundwater management assessment or fee as required by section 10754.3 of the California Water Code. If the Council does not approve holding an election or if the election fails to approve a groundwater management assessment or fee to finance ongoing litigation related to implementation of the Plan, UWCD may, at its option, establish a special zone or zones as appropriate under California Water Code sections 74000 et seq. and establish a groundwater extraction charge within such zone or zones to pay for the costs of said litigation. However, nothing contained in the Agreement to the contrary shall in any way restrict UWCD from exercising its statutory authority as a Water Conservation District under California Water Code sections 74000 et seq., including the establishment of zones and establishing groundwater extraction charges within such zones in furtherance of District activities in the production and augmentation of the water supplies for users within the District or such zones.

1.4 Overlying Public Agencies and Private Water Companies

The overlying public agencies within the area of the Plan are UWCD which overlies both the Piru and Fillmore basins, the County of Ventura which overlies both basins, Ventura County Water Works District No. 16 which is located in the Piru basin and operates the Piru Waste Water Treatment Plant, the City of Fillmore, and the City of Santa Paula eastern portion of East Area 1 which are both located in the Fillmore basin.

The Piru basin area of the Plan has two private water companies which are Piru Mutual Water Company which provides water to agriculture, and Warring Water Service which provides water primarily to domestic users (Figure 2). The Fillmore basin area of the Plan has twelve private water companies which are Brownstone Mutual Water Company, Citrus Mutual Water Company, Hardscrabble Mutual Water Company, Community Mutual Water Company, San Cayetano Mutual Water Company, Sespe Agricultural Water Company, Storke Mutual Water Company, South Mountain Mutual Water Company, Southside Improvement Company, Timber Canyon Mutual Water Company, Goodenough Mutual Water Company and Fillmore Irrigation Company. These private water companies provide water primarily to agriculture (Figure 3).

2 GROUNDWATER BASINS

2.1 Piru Basin

2.1.1 Hydrogeologic Setting

The Piru basin consists of recent and older alluvium underlain by the Pleistocene San Pedro formation. The recent and older alluvium exists almost basin-wide and is made up primarily of coarse sand and gravel. The recent alluvium ranges in thickness from approximately 20 feet near Blue Cut at the east end of the basin to 60 - 80 feet in the remainder of the basin. The older alluvium occurs as terrace deposits and as a layer of variable thickness up to 80 feet under the recent alluvium.

The San Pedro Formation is folded into an east-west syncline and underlies the older alluvium except at the east end of the basin where the older alluvium is underlain by impermeable Pico formation. The San Pedro formation consists primarily of permeable sand and gravel and can extend to a depth of approximately 8,800 feet which is evident in oil well electrical logs (Mann, 1959). The depth, however, to which groundwater is suitable for agricultural and urban use and to which groundwater can be reasonably extracted is considerably shallower than 8,800 feet.

Three principal faults bound the Piru basin, the Oakridge fault to the south and the San Cayetano and Camulos faults to the north. See surface geology map (Figure 4).

The Santa Clara River channel cuts through the Piru basin. At Newhall Bridge, near the east end of the basin, the channel begins to significantly widen. The Santa Clara River is the major source of recharge to the Piru basin. There are no known structural or stratigraphic barriers impeding recharge from the Santa Clara River.

The groundwater flow gradient in the alluvium of the Piru basin tends to be westerly, parallel to the river channel. Similarly, the groundwater flow gradient in the San Pedro formation is westerly with a small north to

south component (Figure 5). Clay layers exist throughout the basin but are not continuous and the basin is considered to be an unconfined groundwater basin.

2.1.2 Land Use

Piru basin land use is mostly agricultural. The primary crops grown are citrus, avocados, nursery stock and row crops. In recent years many orange groves have been removed in favor of row crops and box tree nurseries (Figure 6). The town of Piru is located just west of Piru Creek.

2.1.3 Precipitation

A Piru basin precipitation graph with data from the Piru-Temescal gauge near Lake Piru is shown in Figure 7. The graph shows annual water year totals from 1950 to 2010 with an average precipitation of 20.51 inches and a median precipitation of 17.2 inches. The precipitation is quite variable with a high in 1998 of 51.87 inches and a low in 2007 of 6.37 inches. The data record is characterized by more dry years than wet years with 21 years above average precipitation and 40 years below average precipitation. The cumulative departure from average precipitation curve shows the wet and dry periods. A downward trend on the curve indicates a dry period and an upward trend on the curve indicates a wet period.

2.1.4 Recharge and Discharge

The primary mechanism of recharge for the Piru basin is the Santa Clara River. The Santa Clara River percolates storm runoff from the Santa Clara River watershed, treated waste water effluent discharged into the river from Los Angeles County and UWCD conservation releases from Lake Piru. Santa Clara River recharge occurs from approximately the USGS stream gauging station at the Newhall Bridge, where the valley begins to widen, to approximately Cavin Road two miles from the west boundary, where the river begins to gain flow from rising groundwater (Figure 8). Other sources of recharge are storm runoff to minor tributaries, the UWCD conservation releases through Piru Creek alluvium and the Piru Spreading Grounds, direct rainfall infiltration through the San Pedro outcrops to the north of the basin and the main basin alluvium, and agricultural return flow. Recharge as underflow at the east end of the basin is limited as east of the USGS stream gauging station the river alluvium is underlain by the impermeable Pico Formation.

The flow in the Santa Clara River at the Ventura/Los Angeles County line has averaged approximately 57,000 acre-feet per year from 1972 to 2009. A large percentage of this flow, especially during dry conditions, is from treated waste water effluent from Los Angeles County, specifically the Valencia Waste Water Treatment Plant. In 2009 the Valencia Waste Water Treatment Plant discharged approximately 17,600 acre-feet and the total flow at the County Line was approximately 39,900 acre-feet (United Water Conservation District, 2010). An average daily flow of approximately 25 cfs or 18,000 acre-feet per year of surface flow coming across the County line is estimated to percolate into the Piru basin (United Water Conservation District, 2011). In addition the Piru basin receives significant recharge from UWCD'S fall conservation releases. It is estimated that from 2008 to 2010 the Piru basin recharged an average of 14,600 acre-feet per year from UWCD fall conservation releases (United Water Conservation District, 2011). The Piru Spreading Grounds has recharged an average 5,200 acre-feet per year from 1955 to 2010, but are little-used in recent years. The spreading grounds are utilized primarily in wet years.

Groundwater discharge in the Piru basin occurs at the west end of the basin at the topographic narrows near the Fillmore Fish Hatchery. The narrows constricts groundwater flow and results in groundwater being discharged into the Santa Clara River as rising water. The eastern extent of the rising water varies with basin conditions, moving upstream when water levels in the basin are higher. The rising water subsequently recharges west of the basin boundary into the Fillmore basin. There is also some underflow from the Piru basin into the Fillmore basin at this location.

2.1.5 Groundwater Extractions

The average annual reported total groundwater extractions for the Piru basin from 1980 to 2010 are 12,455 acre-feet. The highest reported annual extraction was in the dry year of 1990 at 17,244 acre-feet. The lowest reported annual extraction was in the wet year of 1983 at 7,251 acre-feet (Figure 9). These extractions do not include wells operated by the Fillmore Fish Hatchery which are located near the basin boundary. Approximately 95% of the groundwater extractions are from agriculture pumping and approximately 5% of the groundwater extractions are from municipal, industrial or domestic pumping. There are three different methods in which pumpers can report their extractions to UWCD. In 2009, 27.4% of the total extractions were reported using an electrical meter, 41.3% of the total extractions were reported using a water meter and 31.3% of the total extractions were reported using a crop factor. There were approximately 94 active wells pumping groundwater from the Piru basin in 2009. The locations and groundwater extraction magnitudes of these Piru basin wells for 2009 are shown in Figure 10.

2.1.6 Groundwater Elevations

There is an extensive groundwater level monitoring network in the Piru basin which includes twenty-two wells. Well 4N/18W-28M2 is UWCD'S key well which has a long historical record. This well is located just north-west of the confluence of Piru Creek and the Santa Clara River. A groundwater elevation hydrograph for this well along with a cumulative departure from the average precipitation graph is shown in Figure 11. The data show that groundwater elevations tend to correlate with precipitation. Storm runoff into the Santa Clara River recharges and fills the Piru basin rapidly. This can be seen in the upward spike in the groundwater elevations in the winter and spring. The basin fills to a maximum during wet years such as 1983, 1993, 1995, 1998 and 2005 which can be seen in the hydrograph. The benefit to the basin from UWCD fall conservation releases from Lake Piru can also be seen in the hydrograph as a stabilizing of groundwater elevations. The spring 2009 groundwater elevation contours for the Piru basin indicate that groundwater elevations range from 680 feet above sea level at the USGS gauging station at the east end of the basin to 480 feet above sea level at the west end of the basin (Figure 5). Groundwater elevations in the discharge area at the west end of the basin are far less variable than groundwater elevations in the recharge area.

2.1.7 Change in Groundwater Storage

UWCD calculates change in groundwater storage of the Piru basin based on the groundwater level high that occurred in the spring of 1944 (Mann, 1959). When the basin groundwater levels reach the high seen in the spring of 1944 the basin is considered to be full. During the wet years of 1983, 1993, 1995, 1998 and 2005 the Piru basin filled and had zero change in storage from the spring of 1944. In February 1991, near the end of the

1984 to 1991 drought, the basin had a change in storage of -69,000 acre-feet or an available storage of approximately 69,000 acre-feet (Figure 12).

2.1.8 Water Quality

Water Chemistry

Stiff diagrams constructed from 2010 general mineral groundwater and surface water analyses are displayed in Figure 13. Stiff diagrams are useful for making visual comparisons of water chemistry from different sources and for determining the dominant cation and anion. Stiff patterns express concentrations in milli-equivalents per liter as opposed to milligrams per liter.

The Stiff diagrams show that twenty-four of twenty-nine wells plotted for the Piru basin have calcium as the dominant cation and sulfate as the dominant anion. This suggests that this is the natural groundwater type for the basin. Two wells east of Piru Creek and three wells west of Piru Creek, however, have sodium as the dominant cation. These five wells have elevated chloride concentrations, and match the sodium - sulfate water type of the Santa Clara River at the County Line which has been impacted by elevated chloride concentrations since approximately 1999 (United Water Conservation District, 2006). The high sodium presence in these wells may be associated with the chlorides that are sourcing from the wastewater effluent being discharged into the Santa Clara River by the Los Angeles County waste water treatment plants. Figure 14 shows a chloride and sodium time series graph for the Santa Clara River at the Ventura/L.A. County line.

Piru Creek surface water, which is a combination of imported water from the California State Water Project and natural runoff, is calcium-sulfate dominant. Hopper Creek is magnesium/sodium - sulfate dominant with high concentrations of sulfate. Four wells located near Hopper Creek show high sulfate concentrations but have calcium as the dominant cation. The Santa Clara River at the Fillmore Fish Hatchery is calcium-sulfate dominant. Water quality at this location is relatively stable due to the influence of rising groundwater at this location.

The California Department of Water Resources (1989), using 1986 to 1988 data, evaluated basin water quality using Stiff diagrams. The evaluation included Stiff diagrams of the water quality of two wells east of Piru Creek and the water quality of the Santa Clara River at the County line. At this time calcium was the dominant cation with sodium a significant secondary anion in both Piru basin groundwater east of Piru Creek and the Santa Clara River east of Piru Creek.

Wastewater Effluent from Los Angeles County

The Saugus Waste Water Treatment Plant and the Valencia Waste Water Treatment Plant discharged approximately 5,400 acre-feet and 17,600 acre-feet of effluent respectively into the Santa Clara River in 2009 (United Water Conservation District, 2010). It is estimated that approximately 18,000 acre-feet per year or a daily average flow of 25 cfs, which is a mix of this wastewater discharge and natural stream flow, flows across the County line into Ventura County and percolates into the Piru basin (United Water Conservation District, 2011). In recent years the Santa Clara River at the Ventura-Los Angeles County line has been impacted with high chloride concentrations from the effluent discharge.

Chloride in the wastewater discharge sources mainly from State Project Water imports and self-regenerating water softeners. Chloride concentrations in the Santa Clara River peaked in 2004 and have fallen somewhat in recent years due to successful efforts by the Los Angeles Sanitation District to remove self-regenerating water softeners. Chloride concentrations in the Santa Clara River at the County line in 2010 ranged from 94 mg/L to 136 mg/L. These chlorides have entered the groundwater flow system and as a result the groundwater in the Piru basin both east and west of Piru Creek is now impacted with chlorides sourcing from the effluent (Figure 15). Chloride concentrations in 2010 of impacted wells east of Piru Creek ranged from 115 mg/L to 160 mg/L. Chloride concentrations in 2010 of impacted wells west of Piru Creek ranged from 72 mg/L to 133 mg/L. In the past the waste water treatment plants were discharging high nitrates. The construction of nitrogen removal facilities has greatly reduced the nitrates being discharged into the Santa Clara River.

Under the direction of the Los Angeles Regional Water Quality Control Board four technical chloride studies were undertaken from 2005 to 2007 as part of the upper Santa Clara River chloride TMDL (Total Maximum Daily Load). These were an agricultural threshold study, a chloride transport model, an endangered species study and a site-specific objective / anti degradation analysis study. Out of these studies a chloride TMDL was approved by the Los Angeles Regional Water Quality Control Board in December 2008 (Los Angeles Regional Water Quality Control Board, 2008). In addition, a Memorandum of Understanding (MOU) was signed in 2008 among the Santa Clarita Valley Sanitation District of Los Angeles County, Upper Basin Purveyors, United Water Conservation District and Ventura County Agricultural Water Coalition agreeing to a basin wide management plan for chloride mitigation in east Piru basin (MOU, 2008). The resulting Alternative Water Resources Management (AWRM) plan and its current status are detailed in Section 3.6.1.

Wastewater Effluent from Piru Wastewater Treatment Plant

The Piru waste water treatment plant is located near Highway 126 and Hopper Creek and is operated by Ventura County Water Works District. In 2010 a remodeled plant was completed with increased capacity from 0.25 mgd (0.77 acre-feet per day) of effluent to 0.5 mgd (1.54 acre-feet per day) of effluent (Ventura County Water Works District No, 16, 2010). The plant discharges to shallow percolation ponds located near the confluence of Hopper Creek and the Santa Clara River. The total treated effluent discharged from the plant in 2009 was 214 acre-feet. The maximum chloride concentration of the treatment plant effluent sampled in 2009 was 220 mg/L and the minimum chloride concentration of the treatment plant effluent sampled in 2009 was 140 mg/L (Ventura Regional Sanitation District, 2009-2010). These concentrations are above the Los Angeles Regional Water Quality Control Board's Piru basin chloride surface water and groundwater objectives west of Piru Creek of 100 mg/L (Los Angeles Regional Water Quality Control Board, 1994).

State Water

Water in Lake Piru water is a blend of natural runoff and California State Water Project water from Lake Pyramid releases into Piru Creek. State water is low in sulfate and total dissolved solids. Chloride concentrations, however, increase during dry periods because of less fresh water dilution of brackish water in the Sacramento

River Delta. Chloride concentrations sampled in Piru Creek at the weir below Santa Felicia Dam in 2010 ranged from 52 mg/L to 57 mg/L. Chloride concentrations sampled in Piru Creek at the weir below Santa Felicia Dam during the drought year of 1990 ranged from 98 mg/L to 118 mg/L. The average chloride concentration at the weir below Santa Felicia Dam since 1980 is approximately 55 mg/L. Castaic Lake also releases State water to UWCD. This water is released into the Santa Clara River where it flows into the Piru basin.

Agricultural Return Flow

A conditional agricultural waiver for irrigated lands was adopted in 2005 and revised and renewed in 2010. The agricultural waiver is administered by the Los Angeles Regional Water Quality Control Board and requires owners of irrigated farmland to control discharges from their property. Growers are required to adopt best management practices to prevent pollutants from entering water bodies (University of California, 2011). These include best management practices for irrigation and fertilization.

Agricultural return flow can leach salts, including nitrates and sulfates, concentrated in the soil into the groundwater. More efficient irrigation and fertilization practices can limit this from occurring. The filling and discharging of the Piru basin during wet years may act to flush the basin of some accumulated salts.

Natural Contamination

Natural contamination is elevated general mineral concentrations that are sourcing from rocks and sediment in the watershed as opposed to manmade activities. In the Piru basin these include sulfate and boron. The maximum sulfate concentrations for wells sampled in the Piru basin for 2010 ranged from 295 mg/L to 1240 mg/L (Figure 16). Concentrations above 600 mg/L are considered unsuitable for agriculture (California Department of Water Resources, 1989). The maximum boron concentrations for wells sampled in the Piru basin for 2010 ranged from 0.4 mg/L to 1.0 mg/L (Figure 17). For oranges and lemons the toxic concentration of boron is as low as 1 mg/L (Hem, 1989).

Urban Storm Water Runoff

Urban Storm water runoff is regulated in Ventura County by a MS-4 NPDES permit, administered by the Los Angeles Regional Water Quality Control Board, first established in 1994. The Permitees include all ten Cities within the County, and the County of Ventura under one permit. The Ventura County Watershed Protection District runs the MS-4 program and oversees the non-incorporated areas such as Piru. The conditions of this permit mainly involve public and business outreach and prevention. Improved surfaces, filters and control of construction sediment are all part of the process. Illicit discharges are investigated when reported (Ventura County Watershed Protection District, 2011). An annual storm water report is put out each year and regular subcommittee meetings among the cities on various storm water runoff topics are held regularly. Individual point source dischargers are not covered by this program and need to obtain an individual NPDES permit. For more information on the Ventura County MS-4 program visit: http://www.vcstormwater.org/publications.html.

Leaky Underground Fuel Tanks (LUFT)

Leaky underground fuel tanks are under the jurisdiction of Ventura County Environmental Health. Leaky tanks can contaminate groundwater with petroleum products. There are currently no open LUFT sites located in the Piru basin. For more information visit: http://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=piru%2Cca.

Chiquita Canyon Landfill

Chiquita Canyon landfill is a Class 3 solid waste landfill located in Los Angele County, approximately 3 miles west of Castaic Junction. The landfill is located east of Piru basin outside of the Groundwater Management Plan but within the Santa Clara River Watershed. Chiquita Canyon landfill issues semi-annual reports which are received by UWCD. These reports contain sampling results of landfill leachate and groundwater. No large release events have been identified at this facility (RTF&A, 2011).

2.2 FILLMORE BASIN

2.2.1 Hydrogeologic Setting

The San Pedro formation, folded into an east-west syncline, underlies most of the Fillmore basin. Along the main axis of the syncline near the center of the basin, the San Pedro formation reaches a depth of 8,430 feet (Mann, 1959). The depth, however, from which groundwater is suitable for agricultural and urban use and to which groundwater can be reasonably extracted is considerably shallower than 8,430 feet. At the western basin boundary, the San Pedro formation extends to a depth of 5,000 to 6,000 feet.

The area of the Fillmore basin north of Sespe Creek alluvium and the Santa Clara River alluvium is termed the Sespe Upland (Figure 4). The Sespe Upland is characterized by predominantly steep southward sloping alluvial fan material and is comprised of complex terrace deposits, older alluvial fan deposits, and recent alluvial fan deposits unconformably overlying the Pleistocene San Pedro formation (Mann, 1959).

The Pole Creek Fan area lies between Sespe Creek and the Santa Clara River, and forms the northeast portion of the basin and underlies much of the City of Fillmore. This area is primarily composed of alluvial fan material.

The area of the Fillmore basin south of the Santa Clara River is covered by the latest sands and gravels of the Santa Clara River and Sespe Creek. The recent sand and gravel of the Santa Clara River near the Fillmore Fish Hatchery in the southeast part of the basin extend to a depth of about 60 feet and the older alluvial materials extend from depths of 60 feet to approximately 100 feet. In the Bardsdale area, the combined thickness of alluvial fill is as much as 120 feet (Mann, 1959). At the downstream basin boundary, near Willard Road, the recent alluvium is approximately 80 feet thick. West of the City of Fillmore, the recent alluvium of Sespe Creek is approximately 80 feet thick. The sands and gravels deposited by Sespe Creek and the Santa Clara River are extremely permeable.

The two principle faults that bound the Fillmore basin are the Oakridge fault to the south and the San Cayetano fault to the northeast. Several other faults bound the basin on the northwest side. See surface geology map (Figure 4).

The Santa Clara River and Sespe Creek cut through the Fillmore basin. These are the two major sources of recharge to the Fillmore basin. There are no structural or stratigraphic barriers impeding recharge from either the Santa Clara River or Sespe Creek.

The groundwater flow gradient in the Fillmore basin generally creates an east to west movement of groundwater through the alluvium. Groundwater that infiltrates from Sespe Creek generally flows towards the southwest (Figure 5). The basin is considered to be an unconfined groundwater basin.

2.2.2 Land Use

Fillmore basin land use is mostly agricultural. The primary crops grown are citrus, avocados, row crops and nursery stock. In recent years many orange groves have been removed in favor of row crops and box tree nurseries (Figure 18). The City of Fillmore is located primarily in the Pole Creek fan area. In recent years there have been residential developments located near the Santa Clara River.

2.2.3 Precipitation

A Fillmore basin precipitation hydrograph with data from the Fillmore Fish Hatchery precipitation gauge is shown in Figure 19. The hydrograph shows annual water year totals from 1957 to 2010 with an average precipitation of 18.95 inches and a median precipitation of 16.36 inches. The precipitation is quite variable with a high in 1998 of 43.73 inches and a low in 2007 of 5.33 inches. The data record is characterized by more dry years than wet years with 20 years above average precipitation and 34 years below average precipitation. The cumulative departure from average precipitation curve shows the wet and dry periods. A downward trend on the curve indicates a dry period and an upward trend on the curve indicates a wet period.

2.2.4 Recharge and Discharge

The primary sources of recharge for the Fillmore basin are Sespe Creek and the Santa Clara River. Sespe Creek recharges storm runoff and baseflow from the Sespe Creek watershed. The Santa Clara River recharges storm runoff from the Santa Clara River watershed, which includes Sespe Creek, and UWCD conservation releases from Lake Piru. Other sources of recharge are storm runoff to minor tributaries, direct rainfall infiltration through the San Pedro outcrops to the north, the main basin alluvium and agricultural return flow. Santa Clara River recharge to the Fillmore basin occurs from approximately a mile west of the east boundary to the area of rising groundwater in the river which is approximately 2.5 miles east of the west boundary (Figure 8). The Fillmore basin also receives recharge as underflow from the Piru basin.

The Fillmore basin discharges to the Santa Clara River near the west end where the basin begins to narrow. The narrows constricts groundwater flow and results in groundwater being discharged into the Santa Clara River as rising water. The eastern extent of the rising water varies with basin conditions, moving upstream when water levels in the basin are higher. Some of this discharge subsequently infiltrates west of the basin boundary into

the Santa Paula basin. There is also underflow from the Fillmore basin into the Santa Paula basin at this location.

2.2.5 Groundwater Extractions

The average annual reported groundwater extractions for the Fillmore basin from 1980 to 2010 are 44,300 acre-feet. The highest reported annual extraction was in the dry year of 1990 at 55,718 acre-feet. The lowest reported annual extraction was in the wet year of 1983 at 29,894 acre-feet (Figure 20). Approximately 93% of the groundwater extractions are from agriculture pumping and approximately 7% of the groundwater extractions are from municipal, industrial or domestic pumping. There are three different methods in which pumpers can report their extractions to UWCD. In 2009, 56.1% of the total extractions were reported using an electrical meter, 27.5% of the total extractions were reported using a water meter, and 16.4% of the total extractions were reported using a crop factor. There were approximately 238 active wells pumping groundwater from the Fillmore basin in 2009. The locations and extraction magnitudes of these Fillmore basin wells for 2009 are shown in Figure 10.

2.2.6 Groundwater Elevations

There is an extensive groundwater level monitoring network in the Fillmore basin which presently includes 20 wells. UWCD's key well for the basin is 3N/20W-2A1 which has a long historical record. This well is located south of the Santa Clara River in the Bardsdale area of the basin. A groundwater elevation hydrograph for this well along with a cumulative departure from precipitation graph is shown in Figure 21. The magnitude of groundwater elevation fluctuations in the Fillmore basin is not as great as the magnitude of groundwater elevation fluctuations in the Piru basin. The trends in groundwater elevations, however, are similar. The data show that groundwater elevations tend to correlate with precipitation. Storm runoff into the Santa Clara River and Sespe Creek recharges and fills the basin rapidly. This can be seen in the spike up the hydrograph in the winter and spring. The basin fills to a maximum during wet years such as 1983, 1993, 1995, 1998 and 2005 which can be seen in the hydrograph. The benefit to the basin from UWCD's fall conservation releases from Lake Piru can also be seen in the hydrograph as a stabilizing of groundwater levels. The 2009 groundwater elevation contours indicate that groundwater elevations range from 460 feet above sea level at the east end of the basin, to approximately 260 feet above sea level at the west end of the basin (Figure 5). Groundwater elevations in the Sespe Upland and Pole Creek fan area have greater variability than groundwater elevations south of the Santa Clara River.

2.2.7 Change in Groundwater Storage

UWCD calculates change in groundwater storage of the Fillmore basin based on the groundwater level high that occurred in the spring of 1944 (Mann, 1959). When the basin reaches the groundwater level high seen in the spring of 1944 the basin is considered to be full. During the wet years of 1983, 1993, 1995, 1998 and 2005 the Fillmore basin filled and had a zero change in storage from the spring of 1944. In February 1991, near the end of the 1984 to 1991 drought, the basin had a change in storage of -53,000 acre-feet or an available storage of 53,000 acre-feet (Figure 22).

2.2.8 Water Quality

Water Chemistry

Stiff diagrams have been constructed for 2010 general mineral groundwater analyses for the Fillmore basin (Figure 23). Stiff diagrams for the Fillmore basin show that seventeen of nineteen wells, for which data are available, are calcium-sulfate dominant. This indicates that this is the natural water type for the basin. This includes the Sespe Upland, Pole Creek fan and south of the Santa Clara River. Sespe Creek and the Santa Clara River at the Fillmore Fish Hatchery are both calcium-sulfate dominant. Pole Creek is magnesium-sulfate dominant with high sulfate concentrations. Four wells located in the Pole Creek fan area are calcium-sulfate dominant.

Wastewater Effluent from Fillmore Wastewater Treatment Plant

The City of Fillmore completed a new waste water treatment plant in August 2009 that started operation in September 2009. The new plant is located at the location of the old plant, near the Santa Clara River east of Sespe Creek confluence. The plant is currently designed and permitted to treat 1.8 million gallons of effluent per day and currently treats 1 million gallons (or 3.1 acre-feet) per day of effluent. 200,000 gallons per day or 0.61 acre-feet per day of the treated effluent is used to irrigate fields at two schools, a newly constructed green belt and the new Two Rivers Park. The remaining 800,000 gallons per day (2.5 acre-feet/day) is being discharged to percolation ponds. In 2009 the total discharge from the plant was approximately 1,061 acre-feet. The chloride concentrations at the plant sites ranged from 129 mg/L in January 2009 to 97 mg/L in February 2009 (City of Fillmore, 2010). The Los Angeles Regional Water Quality Control Board surface water objective for this reach of the Santa Clara River is 100 mg/L. The Regional Board's Basin Plan groundwater objectives are 100 mg/L south of the river, 100 mg/L in the Pole Creek fan area and 50 mg/l in the Sespe Upland (Los Angeles Regional Water Quality Control Board, 1994).

State Water

A percentage of the California State Water Project water that flows into the District either from Pyramid Lake into Piru Creek, or Castaic Lake into the Santa Clara River reaches the Fillmore basin by surface flow or underflow. State water has low sulfates and TDS, but during droughts chloride concentrations may reach 100 mg/L due to brackish water uptake in the Sacramento River Delta at pump inlets near Tracy.

Agricultural Return Flow

A conditional agricultural waiver for irrigated lands was adopted in 2005 and revised and renewed in 2010. The agricultural waiver is administered by the Los Angeles Regional Water Quality Control Board and requires owners of irrigated farmland to control discharges from their property. Growers are required to adopt best management practices to prevent pollutants from entering water bodies (University of California, 2011). These include best management practices for irrigation and fertilization.

Agricultural return flow can leach salts, including nitrates and sulfates, concentrated in the soil into the groundwater. More efficient irrigation and fertilization practices can limit this from occurring. The filling and discharging of the Fillmore basin during wet years may act to flush the basin of some accumulated salts.

Natural Contamination

Natural contamination is elevated general mineral concentrations that are sourcing from rocks and sediment in the watershed as opposed to manmade activities. In the Fillmore basin these include sulfate and boron. The maximum sulfate concentrations for wells sampled in the Fillmore basin for 2010 ranged from 199 mg/L to 1130 mg/L (Figure 16). Concentrations above 600 mg/L are considered unsuitable for agriculture (California Department of Water Resources, 1989). The high sulfate concentrations in groundwater near Pole Creek may be an example of natural sulfate contamination. The maximum boron concentrations for wells sampled in the Fillmore basin for 2010 ranged from 0.1 mg/L to 1.4 mg/L (Figure 17). Sespe Creek had 2010 boron concentrations ranging from non-detect to 2.6 mg/L. For oranges and lemons the toxic concentration of boron is as low as 1 mg/L (Hem, 1989).

Urban Storm Water Runoff

Urban Storm water runoff is regulated under in Ventura County by a MS-4 NPDES permit, administered by the Los Angeles Regional Water Quality Control Board, first established in 1994. The Permitees include the City of Fillmore and the nine other cities within the County, and the County of Ventura under one permit. The County of Ventura Watershed Protection District runs the MS-4 program and oversees the non-incorporated areas such as Piru. The conditions of this permit mainly involve public and business outreach and prevention. Improved surfaces, filters and control of construction sediment are all part of the process. Illicit discharges are investigated when reported (Ventura County Watershed Protection District, 2011). An annual storm water report is published and regular subcommittee meeting among the cities and various topics are held. Individual point source dischargers are not covered by the program need to obtain an individual NPDES permit. For more information visit: http://www.vcstormwater.org/publications.html.

Leaky Underground Fuel Tanks (LUFT)

Leaky underground fuel tanks are under the jurisdiction of Ventura County Environmental Health. Leaky fuel tanks can contaminate groundwater with petroleum products. There are currently three open LUFT sites located in the Fillmore basin. For more information visit: http://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=piru%2Cca.

Toland Landfill

Toland landfill is a solid waste landfill located in the Fillmore basin. The facility is located approximately 2 miles north of Highway 126 on Toland Road and approximately four miles west of the City of Fillmore and is operated by Ventura Regional Sanitation District.

Numerous monitor wells in are installed to monitor for both inorganic and organic constituents. Semi-annual reports prepared for Ventura Regional Sanitation are received by UWCD releases (Ventura Regional Sanitation District, 2009). These reports contain sampling results for landfill leachate and groundwater. The facility does not have a history of contaminant release.

3 BASIN MANAGEMENT

3.1 GOALS FOR THE BASINS

Three basic goals for the Piru and Fillmore basins were established during a public meeting in Fillmore that was part of the original AB 3030 planning process. These goals are: 1) Maintain or improve the quantity and quality of groundwater in the basins; 2) Maintain control of local resources; and 3) Establish cooperative relationships within the Piru and Fillmore basins and with adjacent basins.

To achieve these goals, a series of objectives were defined that dictate the components that are addressed in this plan. These objectives are:

- Facilitate or encourage efficient water use
- Encourage recharge in the Santa Clara River valley
- Set baselines for water quality and water quantity which includes: a) determining past and current conditions; and b) determining reasonable standards; and c) considerations of contingencies for exceeding standards during drought or overdraft for both in basin uses and exports out of basins
- Encourage broad-based participation of all pumpers in basin planning (AB 3030 Council biannual meeting, regularly scheduled public forums and annual report)
- Keep pumpers regularly informed on state of basin (annual report)
- Encourage regular dialog with the County of Ventura with a close coordination with the local Supervisor by the designation of an AB 3030 Council member as contact person
- Investigate the formation of a formal pumpers association.

The list above includes both short and long term objectives. Some of these are addressed in this Plan, some will be addressed in the future, and some are contingent on future events. The numeric Best Management Objective (BMO) limits for both water quality and groundwater levels, and the export policy in this updated Plan will address some of the goals in the original Plan.

3.2 Current Basin Issues and Concerns

The important issues and concerns currently being discussed at the Piru-Fillmore AB 3030 Council meetings include the following:

- The high chloride concentrations in east Piru basin groundwater resulting from discharge of treated waste water effluent from Los Angeles County into the Santa Clara River is still the primary issue and concern.
- The exportation of groundwater out of the Piru and Fillmore basins. This is addressed in this updated Plan with the addition of the export policy attached in Appendix A.
- The replacement of many orange orchards with box tree nurseries and row crops is a concern because of the more intense groundwater demand associated with these crops. The Piru and Fillmore basins currently have no restrictions on groundwater extractions.

3.3 Piru Basin Management Objectives (BMO's)

3.3.1 Groundwater Levels

The AB 3030 groundwater level BMO for the Piru basin is to maintain groundwater levels above the low water levels recorded near the end of the 1984 to 1991 drought. Well 4N/18W-29M2, located just northwest of the confluence of Piru Creek and the Santa Clara River, and well 4N/18W-31D4, located at the end of Powell Road just north of the Santa Clara River, will be used as groundwater level indicator wells (Figure 24). Well 4N/18W-29M2 is United Water's Piru basin key well, is relatively shallow, and has groundwater level records from 1968 to present. Well 4N/18W-31D4 is perforated from 310 to 330 feet below ground surface and is part of the USGS drilled Piru basin monitor well nest. This well has groundwater level records from 1994 to present.

There will be two groundwater level benchmarks for each well associated with the BMO which are discussed below. Benchmarks are an important aspect of a groundwater level BMO. The benchmarks established here will give the AB 3030 Council warnings that groundwater levels are declining and approaching the lows of the 1984 to 1991 drought.

Well 4N/18W-29M2 had a groundwater level of 509 feet msl in February 1991 near the end of the drought Benchmark #1 for well 4N/18W-29M2 is defined by groundwater levels declining to the October 2004 low groundwater level of 542 feet msl. Benchmark #2 for well 4N/18W-29M2 is defined by groundwater levels declining to 526 feet msl which is midway between the 2004 low groundwater level and the 1991 low groundwater level. In May 1998 the basin was full with a groundwater level at well 4N/18W-29M2 of 620 feet msl (Figure 11).

Well 4N/18W-31D4 was drilled in 1994 after the 1984 to 1991 drought. Thus the low groundwater level for this well at the end of the 1984 to 1991 drought had to be estimated at 496 feet msl. Benchmark #1 for well 4N/18W-31D4 is defined by groundwater levels declining to the October 2004 low groundwater level of 529 feet msl. Benchmark #2 for well 04N18W-31D4 is defined by groundwater levels declining to 513 feet msl which is midway between the 2004 low groundwater level and the estimated 1991 low groundwater level. In April 1998 the basin was full with a groundwater level at well 4N/18W-31D4 of 589 feet msl (Figure 11).

Benchmark #1 will require a notification of the AB 3030 Groundwater Management Council within one month of the groundwater level measurement. Benchmark #2 will also require notification of the Council within one month of the groundwater level measurement. At this time UWCD staff will evaluate groundwater levels basin wide to see if the trend applies to the entire basin. In addition UWCD staff will analyze basin precipitation and extractions to determine if the low groundwater levels are related to hydrology, over-pumping or a combination of both. A Council meeting will be held to discuss possible mitigation measures. See Mitigation of Conditions of Overdraft under Section 3.5.1.

The groundwater level in well 4N/18W-29M2 in June 2011 was 594 feet msl or 85 feet above the low groundwater level of 1991. The groundwater level in well 4N/18W-31D4 in June 2011 was 573 feet msl or 77 feet above the estimated low groundwater level of 1991 (Table 1).

Table 1. Piru Basin Groundwater Level BMO Benchmarks at Indicator Wells

State Well Number	Groundwater Elevation Low 1991 (feet, msl)	Benchmark #1 (feet, msl)	Benchmark #2 (feet, msl)
4N/18W-29M2	509 feet	542 feet	526 feet
4N/18W-31D4	496 feet[1]	529 feet	513 feet

[1]estimated groundwater elevation

3.3.2 Groundwater Quality

The AB 3030 groundwater quality BMO limits west of Piru Creek will be the same as the Los Angeles Regional Water Quality Control Board's (1994) current groundwater basin objectives for the area west of Piru Creek. The Regional Board basin objectives for chloride, sulfate and TDS for the area east of Piru Creek will be revised to match the Regional Board's current basin objectives for the area west of Piru Creek. This adjustment will be made because the Regional Board's basin objectives east of Piru Creek are based on degraded conditions from oil field brine discharges in the 1950's and 1960's. The Regional Board has historically set objectives to preserve and enhance water quality and to protect the beneficial uses of all regional waters (Los Angeles Regional Water Quality Control Board, 1994)

In 2008, the Regional Board revised the groundwater quality objective for chloride east of Piru Creek from 200 mg/L to 150 mg/L conditional on the Alternative Water Resources Management Plan (AWRM) (Section 3.6.1) (Los Angeles Regional Water Quality Control Board, 2008). If and when the AWRM Plan and the new objective come into existence, the AB 3030 Council can, at its discretion, revise the AB 3030 chloride BMO limit to be in line with the Regional Board objective.

The AB 3030 groundwater BMO limit for nitrate both east and west of Piru Creek of 45 mg/L is also a primary maximum contaminant level (MCL) for drinking water established by the California Department of Public Health (CA DPH). The California Department of Public Health has established secondary drinking water maximum

contaminant levels for chloride, sulfate and TDS. Primary MCLs are health based standards and secondary MCls are aesthetically based standards.

Table 2 shows the AB 3030 groundwater quality BMO limits. If the concentrations of any wells sampled increase to 80% of the AB 3030 BMO limits the following actions will result.

1. It will be brought to the attention of the AB 3030 Council in the Piru and Fillmore Basin Annual Groundwater Conditions Report in a table similar to Table 3 shown below.
2. Upon direction from the Council, UWCD staff will investigate the reason for the elevated concentrations as to whether they are naturally occurring and/or related to hydrology, or a result of man-made activities.
3. If it is determined that the elevated concentrations are from man-made activities the Council will, at its discretion, write a letter to the Los Angeles Regional Water Quality Control Board explaining the issues and concerns.

The groundwater quality analyses presented in Table 3 are from various sources. UWCD has arrangements with basin pumpers to collect groundwater samples from their private wells. In addition UWCD samples its nested monitor well site located near the Santa Clara River at the end of Powell Road. Other analyses from public supply wells are received by UWCD from the California Department of Public Health (CA DPH). In 2010, twenty-three wells sampled had various constituents that were 80% or greater of the AB 3030 BMO groundwater quality concentration limits. If a well has a constituent with more than one analysis the maximum concentration is shown. The values shown in bold red are concentrations above BMO limits. Also see Figures 15-17 and Figures 25-26 for maps of maximum concentrations for 2010.

The groundwater quality data in Table 3 show wells in the Piru basin east of Piru Creek and wells just west of Piru Creek with chlorides above BMO limits. This is due to chloride loading in the Santa Clara River of effluent from waste water treatment plants in Los Angeles County. There are elevated concentrations of sulfate and TDS above BMO limits in groundwater near Hopper Creek. These elevated concentrations may be sourcing from Hopper Creek.

Table 2. Piru Basin Groundwater Quality AB 3030 BMO Limits

Location	Chloride (mg/L)	Sulfate (mg/L)	Nitrate (mg/L)	Boron (mg/L)	TDS residue (mg/L)	TDS sum (mg/L)
East of Piru Creek	100	600	45	1.5	1200	1200
West of Piru Creek	100	600	45	1.5	1200	1200

Table 3. Piru Basin Groundwater Quality Concentrations for 2010 which are 80% or greater of AB 3030 BMO Limits

(concentrations less than 80% of BMO limit or no data are blank cells, concentrations from 80% to 100% of BMO limit are in black text, concentrations greater than BMO limit are in bold red text)

BMO (east of Piru Creek): Chloride 100 mg/L, Sulfate 600 mg/L, Nitrate 45 mg/L, Boron 1.5 mg/L, TDS (residue and sum) 1200 mg/L
BMO (west of Piru Creek) Chloride 100 mg/L, Sulfate 600 mg/L, Nitrate 45 mg/L, Boron 1.5 mg/L, TDS (residue and sum) 1200 mg/L

Well	Well Location	Number of Samples in 2010	Chloride maximum (mg/L)	Sulfate maximum (mg/L)	Nitrate maximum (mg/L)	Boron maximum (mg/L)	TDS residue maximum (mg/L)	TDS sum maximum (mg/L)
A	East of Piru Creek	2	**160**	**660**			**1510**	
B	East of Piru Creek	2	**126**				970	
C	West of Piru Creek	2	**128**					
D	West of Piru Creek	1	**115**					
E	West of Piru Creek	1	**117**					**1250**
F	West of Piru Creek	1	**113**					
G	West of Piru Creek	4	**130**	**710**			**1540**	
H	West of Piru Creek	4	**133**	560			**1360**	
I	West of Piru Creek	1					980	
J	West of Piru Creek	3	**103**	500			1090	
K	West of Piru Creek (Hopper Creek area)	1						1040
31D3	West of Piru Creek (USGS monitor well)	2		**610**				
L	West of Piru Creek (Hopper Creek area)	1	83					1030
M	West of Piru Creek (Hopper Creek area)	1		**950**				**1960**
N	West of Piru Creek (Hopper Creek area)	1	**108**	520				**1310**
O	West of Piru Creek (Hopper Creek area)	1						995
P	West of Piru Creek (Hopper Creek area)	1	90					1030
Q	West of Piru Creek (Hopper Creek area)	1		**1240**				**2400**
R	West of Piru Creek (Hopper Creek area)	1		**870**	43.3			**1890**
S	West of Piru Creek (Hopper Creek area)	1		**1140**	38.9			**2300**
T	West of Piru Creek (Hopper Creek area)	1		**1100**				**2230**
U	West of Piru Creek (near Piru/Fillmore Boundary)	1						992
V	West of Piru Creek (near Piru/Fillmore Boundary)	2					1030	

3.3.3 Surface Water Quality

AB 3030 Surface water quality BMO limits for chloride, sulfate, boron and TDS, for streams overlying the Piru basin will be based on the Regional Water Quality Board's current surface water objectives (Los Angeles Regional Water Quality Control Board, 1994).

The Regional Board nitrate surface water quality objective for streams overlying the Piru basin is 5 mg/L nitrate-nitrogen which is equivalent to 22 mg/L nitrate. The AB 3030 BMO limit will be set at 22 mg/L nitrate to agree with the Regional Board objective. The California Department of Health (CA DPH) maximum contaminant level is 45 mg/L.

In 2008, the Regional Board revised the surface water quality objective for chloride east of Piru Creek from 100 mg/l to 117mg/L (130 mg/L during drought periods) conditional on the Alternative Water Resources Management Plan (AWRM) (Section 3.6.1) (Los Angeles Regional Water Quality Control Board, 2008). The AB 3030 surface water chloride BMO limit for the Santa Clara River east of Piru Creek, however, will be set at the current Regional Board objective of 100 mg/L. If and when the AWRM Plan and the new objective come into existence, the AB 3030 Council can, at its discretion, revise its chloride BMO limit to be in line with the revised Regional Board objective.

Table 4 shows the AB 3030 BMO limits. If surface water concentrations sampled increase to 80% of the AB 3030 BMO limits the following actions will result.

1. It will be brought to the attention of the AB 3030 Council in the Piru and Fillmore Basin Annual Groundwater Conditions Report in a table similar to Table 5 shown below.
2. Upon direction from the Council, UWCD staff will investigate the reason for the elevated concentrations as to whether they are naturally occurring and/or related to hydrology, or a result of man-made activities.
3. If it is determined that the elevated concentrations are from man-made activities the Council will write a letter, at its discretion, to the Los Angeles Regional Water Quality Control Board explaining the issues and concerns.

Table 5 shows 2010 concentrations 80% or greater of the BMO limits. Concentrations shown in bold red are above the AB 3030 BMO limit. As there is more than one sample taken per year at these sites the maximum concentration is shown. UWCD conducts the surface water sampling on Piru Creek and the Santa Clara River. Also see Figures 13 -15 and Figures 25 -26 for maps of maximum concentrations for 2010.

The surface water quality data in Table 5 show chloride concentrations in the Santa Clara River at the Ventura County/Angeles County line to be above BMO limits. These chlorides are sourcing from waste water treatment plants in Los Angeles County.

Table 4. Piru Basin Surface Water Quality AB 3030 BMO Limits

Reach	Location	Chloride (mg/L)	Sulfate (mg/L)	Nitrate (mg/L)	Boron (mg/L)	TDS residue (mg/L)	TDS summation (mg/L)
1) S.C. River: Blue Cut to confluence of Piru Creek and S.C. River	S.C. River at Newhall Crossing	100	600	22	1.5	1300	1300
2) S.C. River: Confluence of Piru Creek and S.C. River to A Street Fillmore	S.C. River near Fillmore Fish Hatchery	100	600	22	1.5	1300	1300
3) Piru Creek above gauging station below Santa Felicia Dam	Piru Creek at weir below Santa Felicia Dam	60	400	22	1	800	800

Table 5. Piru Basin Surface Water Quality Concentrations for 2010 which are 80% or Greater of BMO Limits

(concentrations less than 80% of BMO limit or no data are blank cells, concentrations from 80 to 100% of BMO limit are in black text, concentrations greater than BMO limit are in bold red text)

BMO Reach 1: Chloride 100 mg/L, Sulfate 600 mg/L, Nitrate 22 mg/L, Boron 1.5 mg/L, TDS (residue and sum) 1300 mg/l)
BMO Reach 2: Chloride 100 mg/L, Sulfate 600 mg/L, Nitrate 22 mg/L, Boron 1.5 mg/L, TDS (residue and sum) 1300 mg/l)
BMO Reach 3: Chloride 60mg/L, Sulfate 400 mg/L, Nitrate 22 mg/L, Boron 1 mg/L, TDS (residue and sum) 800 mg/l)

Reach	Location	Number of Samples in 2010	Chloride (mg/L)	Sulfate (mg/L)	Nitrate (mg/L)	Boron (mg/L)	TDS residue (mg/L)	TDS summation (mg/L)
1) S.C. River: Blue Cut to confluence of Piru Creek and S.C. River	S.C. River at Newhall Bridge	12	**136**					
2) S.C. River: Confluence of Piru Creek and S.C. River to A Street Fillmore	S.C. River near Fillmore Fish Hatchery	3						
3) Piru Creek above gauging station below Santa Felicia Dam	Piru Creek at weir below Santa Felicia Dam	4	57					

3.4 FILLMORE BASIN BEST MANAGEMENT OBJECTIVES (BMO'S)

3.4.1 Groundwater Levels

The AB 3030 groundwater level BMO for the Fillmore basin is to maintain groundwater levels above the low water levels recorded near the end of the 1984 to 1991 drought. Well 3N/21W-02A1, located south of the Santa Clara River in the Bardsdale area, and well 4N/20W-23Q2, located just west of Sespe Creek in the Sespe Upland, will be used as groundwater level indicator wells (Figure 27). Well 3N/21W-02A1 is a shallow well and is also United Water's key well. This well has groundwater level records from 1950 to present. Well 4N/20W-23Q2 is a relatively deep well and has groundwater level records from 1978 to present.

There will be two groundwater level benchmarks for each well associated with the BMO which are discussed below. Benchmarks are an important aspect of a groundwater level BMO. The benchmarks established here will give the AB 3030 Council a warning that groundwater levels are declining to the lows of the 1984 to 1991 drought.

Well 3N/20W-02A1 had a groundwater level of 333 feet msl in February 1991 near the end of the drought. Benchmark #1 for well 3N/20W-02A1 is defined by groundwater levels declining to the October 2004 low groundwater level of 349 feet msl. Benchmark #2 for well 3N/20W-02A1 is defined by groundwater levels declining to 341 feet msl which is midway between the 2004 low groundwater level and the 1991 low groundwater level. In May 1998 the basin was full with a groundwater level at well 3N/20W-02A1 of 363 feet msl (Figure 21).

Well 4N/20W-23Q2 had a groundwater level of 360 feet msl in October 1991 near the end of the drought. Benchmark #1 for well 4N/20W-23Q2 is defined by groundwater levels declining to the October 2004 low groundwater level of 378 feet msl. Benchmark #2 for well 04N20W-23Q2 is defined by groundwater levels declining to 369 feet msl which is midway between the 2004 low groundwater level and the 1991 low groundwater level. In April 1998 the basin was full with a groundwater level at well 4N/20W-23Q2 of 414 feet msl (Figure 21).

Benchmark #1 will require a notification of the AB 3030 Groundwater Management Council within one month of the groundwater level measurement. Benchmark #2 will also require notification of the Council within one month of the groundwater level measurement. At this time UWCD staff will evaluate groundwater levels basin wide to see if the trend applies to the entire basin. In addition UWCD staff will analyze basin precipitation and extractions to determine if the low groundwater levels are related to hydrology, over-pumping or a combination of both. A Council meeting will be held to discuss possible mitigation measures. See Mitigation of Conditions of Overdraft under Section 3.5.1.

The feet above the 1991 low groundwater elevation established for the Fillmore basin groundwater level BMO benchmarks are considerably less than those established for the Piru basin. This is because the groundwater level variability for the Fillmore basin is much less than the groundwater level variability for the Piru basin.

The groundwater level for well 3N/20W-02A1 in June 2011 was 357 feet msl, or 24 feet above the low groundwater level of 1991. The groundwater level for well 4N20W-23Q2 in June 2011 was 389 feet msl, or 29 feet above the low groundwater level of 1991.

Table 6. Fillmore Basin Groundwater Level BMO Benchmarks at Indicator Wells

State Well Number	Groundwater Elevation Low 1991 (feet, msl)	Benchmark #1 (feet, msl)	Benchmark #2 (feet, msl)
3N/20W-02A01	333 feet	349 feet	341 feet
4N/20W-23Q2	360 feet	378 feet	369 feet

3.4.2 Groundwater Quality

The AB 3030 BMO limits for the Pole Creek fan area, south of the Santa Clara River and the remainder of the Fillmore Basin which includes the Sespe Upland will be the same as the Los Angeles Regional Water Quality Board current groundwater basin objectives for these areas of the Fillmore basin (Los Angeles Regional Water Quality Control Board, 1994).

The AB 3030 BMO limit for nitrate for the Pole Creek Fan, south of the Santa Clara River and the Sespe Upland of 45 mg/L is also a primary maximum contaminant level (MCL) for drinking water established by the California Department of Public Health (CA DPH). The California Department of Public Health has established secondary drinking water maximum contaminant levels for chloride, sulfate and TDS. Primary MCLs are health based standards and secondary MCLs are aesthetically based standards.

Table 7 shows the AB 3030 BMO limits. If the concentrations of any wells sampled increase to 80% of the AB 3030 BMO limits the following actions will result.

1. It will be brought to the attention of the AB 3030 Council in the Piru and Fillmore Basin Annual Groundwater Conditions Report in a table similar to Table 8 shown below.
2. Upon direction from the Council, UWCD staff will investigate the reason for the elevated concentrations as to whether they are naturally occurring and/or related to hydrology, or a result of man-made activities.
3. If it is determined that the elevated concentrations are from man-made activities the Council will, at its discretion, write a letter to the Los Angeles Regional Water Quality Control Board explaining the issues and concerns.

The groundwater quality sample analyses evaluated are from various sources. UWCD has arrangements with basin pumpers to collect groundwater samples from their private wells. Analyses from public supply wells are received by UWCD from the California Department of Public Health (CA DPH). In 2010, eleven wells sampled had various constituents that were 80% or greater of the AB 3030 BMO groundwater quality concentration limits (Table 8). If a well has a constituent with more than one analysis the maximum concentration is shown. The values shown in bold red are concentrations above BMO limits. Also see Figures 15-17 and Figures 25-26 for maps of maximum concentrations for 2010.

Two wells located in the Sespe Upland show nitrate concentrations exceeding BMO limits. One well located south of the Santa Clara River has exceedingly high concentrations of chloride, sulfate, boron and TDS.

Table 7. Fillmore Basin Groundwater Quality AB 3030 BMO Limits

Location	Chloride (mg/L)	Sulfate (mg/L)	Nitrate (mg/L)	Boron (mg/L)	TDS residue (mg/L)	TDS sum (mg/L)
Pole Creek Fan area	100	800	45	1	2000	2000
South of Santa Clara River	100	800	45	1.1	1500	1500
Remainder of Basin which includes the Sespe Upland	50	400	45	0.7	1000	1000

Table 8. Fillmore Basin Groundwater Quality Concentrations for 2010 which are 80% or Greater of AB 3030 BMO limits

(concentrations less than 80% of BMO limit or no data are blank cells, concentrations from 80% to 100% of BMO limit are in black text, concentrations greater than BMO limit are in bold red text)

BMO Pole Creek Fan: Chloride 100 mg/L, Sulfate 800 mg/L, Nitrate 45 mg/L, Boron 1 mg/L, TDS (residue and sum) 2000 mg/L
BMO South of Santa Clara River: Chloride 100 mg/L, Sulfate 800 mg/L, Nitrate 45 mg/L, Boron 1.1 mg/L, TDS (residue and summation) 1500 mg/L
BMO remainder of basin which includes Sespe Upland: Chloride 50 mg/L, Sulfate 400 mg/L, Nitrate 45 mg/L, Boron 0.7 mg/L TDS (residue and summation) 1000 mg/L

Well	Location	Number of samples in 2010	Chloride (mg/L)	Sulfate (mg/L)	Nitrate (mg/L)	Boron (mg/L)	TDS residue (mg/L)	TDS Sum (mg/L)
X	Pole Creek Fan	2		760				
Y	Pole Creek Fan	2		**940**			1860	
Z	South SC River	1			36.4			
AA	South SC River	1	**190**	**1130**	44.7	**1.4**		**2510**
BB	Sespe Upland	1	**53**	330		**1.3**		878
CC	Sespe Upland	1	**64**	360		**1.1**	860	
DD	Sespe Upland	2	47	**440**	**75.6**		**1090**	
EE	Sespe Upland	1	**53**	**530**	**91**			**1320**
FF	near west boundary	2	49	**500**		0.7	**1050**	

Table 8. continued

BMO Pole Creek Fan: Chloride 100 mg/L, Sulfate 800 mg/L, Nitrate 45 mg/L, Boron 1 mg/L, TDS (residue and sum) 2000 mg/L BMO South of Santa Clara River: Chloride 100 mg/L, Sulfate 800 mg/L, Nitrate 45 mg/L, Boron 1.1 mg/L, TDS (residue and summation) 1500 mg/L BMO remainder of basin which includes Sespe Upland: Chloride 50 mg/L, Sulfate 400 mg/L, Nitrate 45 mg/L, Boron 0.7 mg/L TDS (residue and summation) 1000 mg/L								
Well	**Location**	**Number of samples in 2010**	**Chloride (mg/L)**	**Sulfate (mg/L)**	**Nitrate (mg/L)**	**Boron (mg/L)**	**TDS residue (mg/L)**	**TDS Sum (mg/L)**
GG	near west boundary	2	**55**	**460**		0.7	990	
HH	near west boundary	1	46	**470**		0.6		**1140**

3.4.3 Surface Water Quality

Surface water quality AB 3030 BMO limits for chloride, sulfate, boron and TDS, for streams overlying the Fillmore basin will be based on the Regional Water Quality Board surface water objectives (Los Angeles Regional Water Quality Control Board, 1994).

The Regional Board nitrogen surface water quality objective for streams overlying the Fillmore basin is 5 mg/L nitrate-nitrogen which is equivalent to 22 mg/L nitrate. The AB 3030 BMO limit will be set at 22 mg/L nitrate to agree with the Regional Board objective. The California Department of Health (CA DPH) maximum contaminant level is 45 mg/L.

Table 9 shows the AB 3030 BMO limits. If the concentrations of any surface water sites sampled increase to 80% of the AB 3030 BMO limits the following actions will result.

1. It will be brought to the attention of the AB 3030 Council in the Piru and Fillmore Basin Annual Groundwater Conditions Report in a table similar to Table 10 shown below.
2. Upon direction from the Council, UWCD staff will investigate the reason for the elevated concentrations as to whether they are naturally occurring and/or related to hydrology, or a result of man-made activities.
3. If it is determined that the elevated concentrations are from man-made activities the Council will, at its discretion, write a letter to the Los Angeles Regional Water Quality Control Board explaining the issues and concerns.

Table 10 shows 2010 concentrations 80% or greater of the BMO limits. Concentrations shown in bold red are above the AB 3030 BMO limit. As there is more than one sample taken per year at these sites the maximum concentrations are shown. UWCD conducts the surface water sampling on Sespe Creek and the Santa Clara River. Also see Figures 15-17 and Figures 25 -26 for maps of maximum concentrations for 2010.

Table 10 shows elevated concentrations in Sespe Creek and the Santa Clara River at Willard Road that are above BMO limits. These elevated concentrations may be associated with the relatively low precipitation and stream flow that has occurred from 2006 to 2010.

Table 9. Fillmore Basin Surface Water Quality AB 3030 BMO Limits

Reach	Location	Chloride (mg/L)	Sulfate (mg/L)	Nitrate (mg/L)	Boron (mg/L)	TDS residue (mg/L)	TDS summation (mg/L)
1)S.C. River: Between A Street Fillmore and Freeman Diversion	S.C. River at Willard Road	80	650	22	1.5	1300	1300
2) Sespe Creek above Gauging Station, 500 feet downstream from Little Sespe Creek	Sespe Creek at USGS Gauge	60	320	22	1.5	800	800

Table 10. Fillmore Basin Surface Water Quality Concentrations for 2010 which are 80% or Greater of AB 3030 BMO Limits

(concentrations less than 80% of BMO limit or no data are blank cells, concentrations from 80% to 100% of BMO limit are in black text, concentrations greater than BMO limit are in bold red text)

BMO Reach 1: Chloride 80 mg/L, Sulfate 650 mg/L, Nitrate 22mg/L, Boron 1.5 mg/L, TDS (residue and sum) 1300 mg/l) BMO Reach 2: Chloride 60 mg/L, Sulfate 320 mg/L, Nitrate 22 mg/L, Boron 1.5 mg/L, TDS (residue and sum) 800 mg/l)								
Reach	Location	Number of Samples in 2010	Chloride (mg/L)	Sulfate (mg/L)	Nitrate (mg/L)	Boron (mg/L)	TDS residue (mg/L)	TDS summation (mg/L)
1)S.C. River: Between A Street Fillmore and Freeman Diversion	S.C. River at Willard Road	4	**95**	**1000**		**2.1**	**1990**	
2) Sespe Creek above Gauging Station, 500' downstream from Little Sespe Creek	Sespe Creek at USGS Gauge	4	**105**			**2.6**	660	

3.5 Current Management Strategies

The Groundwater Management Act allows a groundwater management plan to include a number of components (California Water Code, Section 10753.8). For the Piru and Fillmore basins, the following sections discuss these components, how they apply to the basins, and what specific issues are addressed in this plan.

3.5.1 Components of the Plan

- ***Control of Saline Intrusion***

There is minimal threat of saline intrusion and/or salt accumulation in the Piru and Fillmore basins because of: 1) the discharge that occurs at the west end of each basin that flushes the groundwater of excess salts; and 2) there is no significant hydraulic connection between these basins and the seawater intrusion areas of the Oxnard Plain basin.

The Piru and Fillmore basins are recharged rapidly by the Santa Clara River and Sespe Creek during periods of above average rainfall and streamflow. This recharge causes high groundwater levels at the lower (western) ends of each basin and maximizes surface and subsurface discharge into the next lower basin. This recharge-discharge process acts to promote flushing of the basins of excess salts. It is necessary to maintain this recharge in order to periodically have groundwater levels high enough in the basins to maximize subsurface and surface outflows at the lower end of each basin to keep salts flushed.

Seawater intrusion occurs in the Oxnard Plain basin. Underflow from the upstream basins of Piru, Fillmore and Santa Paula does little to recharge the Oxnard Forebay basin and Oxnard Plain basin as there is no significant hydraulic connection. However, the surface flows of the Santa Clara River, in addition to recharging the Piru and Fillmore basins, have a significant effect on the recharge of the Oxnard Forebay basin and Oxnard Plain basin. This is primarily through the utilization of the Freeman Diversion on the Santa Clara River and UWCD's artificial recharge facilities.

There is a relationship between fluctuating groundwater levels in the Piru and Fillmore basins and the amount of water that infiltrates into river alluvium overlying these groundwater basins. When groundwater levels are high, near the bed of the river, infiltration is reduced. This in turn increases the amount of river water available to divert at the Freeman Diversion for artificial recharge. During average and above average rainfall seasons Santa Clara River flows are in excess of downstream infiltration and diversion capacities, and result in flows to the Pacific Ocean.

- ***Identification and Management of Wellhead Protection Areas and Recharge Areas***

The U.S. Environmental Protection Agency (EPA) has promoted a "Wellhead Protection" program that seeks the protection of public water supplies through the identification of the area surrounding a well that contributes water to the well's production. By identifying the capture zone around a well, the route and travel time of possible contaminants (such as surface spills) that may reach the well can be predicted. As part of this Piru and Fillmore Basin Groundwater Management Plan, the AB 3030 Council will encourage the suppliers of public water services to identify wellhead protection areas surrounding their wells. If requested UWCD may be able to provide technical assistance to the suppliers of public water services in the identification of wellhead protection areas.

In order to preserve the long-term viability of the groundwater resources in the Piru and Fillmore basins, it is necessary to ensure that the basins receive regular recharge of good quality water. The recharge in the basins occurs primarily from infiltration along the Santa Clara River, Piru Creek, Sespe Creek, and UWCD's Piru spreading grounds (which diverts water from Piru Creek). It is the intent of this Plan to protect these areas so

that recharge will continue in the basins. In addition, it is the intent to protect these areas from sources of contamination that may adversely affect the groundwater quality of the basins. This protection will be provided by the designation of these areas as "Aquifer Recharge Areas". This designation will be coordinated with County of Ventura Planning Division, as discussed in a later section.

♦ *Regulation of the Migration of Contaminated Groundwater*

For point sources of contamination (e.g., leaking fuel tanks, seeping landfills), a variety of agencies, including Ventura County Environmental Health Department and the Regional Water Quality Control Board, have the responsibility to identify and supervise the cleanup of contaminated groundwater. It is the intention of this Plan to encourage such responsibility and to allow the AB 3030 Council to recommend necessary and appropriate action if these regulatory agencies do not take adequate steps to prevent migration of contaminated groundwater.

There are two landfills located in the watershed of the Piru and Fillmore basins, Chiquita Canyon and Toland Landfill. Both landfills issue a semi-annual report that reports on monitoring. UWCD reviews the landfill reports to ensure that there is adequate monitoring of groundwater in the vicinity of the landfills. If the reports contain evidence of leachate reaching the groundwater or waterways within the watershed, UWCD will notify the AB 3030 Council. In addition UWCD will actively encourage the Regional Board to require appropriate mitigation to prevent further contamination and to clean up any contamination.

The point source chloride contamination emanating from treatment plants in Los Angeles County, as discussed in Section 2.1.8, is of primary concern to the AB 3030 Council. UWCD has worked closely with the Regional Water Quality Board on this problem and provides the Council with updates in the AB 3030 Piru and Fillmore Basins Annual Groundwater Conditions Report and at AB 3030 Groundwater Council meetings.

It is the intent of this Management Plan to use the full powers of a water replenishment district , if necessary, to control such point source contamination (California Water Code, Section 10754 pursuant to section 60224). If the contamination source is outside the area of the Management Plan, action to control such contamination may also be taken if: 1) the action is reasonably necessary to protect groundwater supplies within the Plan area; and 2) there is a direct, material relationship between the groundwater supply where the action is to be taken and the groundwater supply within the Plan area (Section 60225). Both injunctive relief and recovery of expenses from the person or persons responsible for the contaminants are available (Section 60226).

The Regional Water Quality Control Board sets basin goals for a variety of inorganic general mineral contaminants and often uses drinking water standards for the regulation of organic contaminants. It is the intent of this Plan to encourage the Council to work with the Regional Board in setting and meeting these goals, and to take appropriate action if there is a contamination threat that is not adequately addressed by a regulatory agency. This updated Management Plan establishes AB 3030 BMO limits based on the Regional Water Quality Control Board's groundwater quality and surface water quality basin objectives which are discussed in Sections 3.3 and 3.4 of this Plan.

UWCD does a watershed sanitary survey every five years (United Water Conservation District, 2011b). This watershed sanitary survey is useful in identifying present or future sources of groundwater contamination.

Administration of a Well Abandonment and Well Destruction Program

Well abandonment and well destruction are regulated by the Ventura County Water Resources Division. All well owners in the Piru and Fillmore basins are required to report their water use semiannually to UWCD. Wells that cease reporting extractions for a calendar year are identified. After a well is identified an annual usage letter is sent to the well owner by Ventura County Water Resources requesting the status of the well. Once it is determined that the well is abandoned or has pumped for less than 8 hours for the calendar year the well owner has 45 days to destroy the well, put it back in use after a well inspection or obtain a certificate of exemption after a well inspection. All well destructions are assigned a well destruction permit number by Ventura County Water Resources. There are currently 9 wells classified as abandoned in the Piru basin and 38 wells classified as abandoned in the Fillmore basin (Ventura County Water Resources, 2011)

Mitigation of Conditions of Overdraft

Overdraft occurs in a basin when pumping exceeds recharge over a long period of time, resulting in harmful conditions in the basin. The period of time used in such determination may vary, but should take into account both wet and dry cycles.

Groundwater basins have to be actively monitored for signs of overdraft. Such signs might include: 1) continuing lowering of water levels, even following wet cycles; 2) inadequate recovery of water levels following a drought; 3) lowered water levels over a long period of time that cause a widespread increase in pumping costs which create conditions for uneconomic use of the overlying lands; 4) degradation of water quality that is induced by lowered water levels in the basins; or 5) land subsidence and the irreversible compaction of sediments. The Annual Report of Groundwater Conditions prepared for the Council will identify if any of these conditions exist or are likely to exist in the future.

If it is determined by the Council in the future that over-pumping has occurred in the basins, the Council will take steps to mitigate potential problems in the basins. Such steps might focus on supplementing recharge to the basins, thus increasing the basin yield. These steps might include increasing artificial recharge or buying supplemental water. The Groundwater Management Act (AB 3030) states that:

"Nothing in this part shall be construed as authorizing the local agency to limit or suspend extractions unless the local agency has determined through study and investigation that groundwater replenishment programs or other alternative sources of water supply have proved insufficient or infeasible to lessen the demand for groundwater." (California Water Code, Section 1.0753, 8e)

Thus, it is the intent of this Plan to take all practical steps to maintain the yield of the basins using resources from UWCD or other entities. This will be done before there will be any consideration of limiting extractions.

Any projects that pump groundwater from the basins for export outside of the basins could lead to over-pumping of the basins, and related problems. Thus, to minimize the potential of over-pumping related to groundwater exports, an export plan has been formulated that requires written application to the Council for any new groundwater pumping that will extract water for export outside of the basin. If the pumping and export of the groundwater would not create conditions that could lead to over-pumping or degraded conditions in the basins, then the approval of the application would not be unreasonably withheld. If the pumping and

export of the groundwater would reasonably create conditions that could lead to over-pumping in the basins, then the application would be denied.

Replenishment of Groundwater Extracted by Water Producers

Replenishment of groundwater in the Piru and Fillmore basins occurs by both natural and artificial means (Section 2.1.4 and Section 2.2.4). This regular recharge is fundamental to the long-term health of the basins. It is not presently necessary to increase the use of the Piru Spreading Grounds for artificial recharge because the Piru and Fillmore basins historically recharge readily during average and above average rainfall conditions**.** Waste water recharge into the Santa Clara River from Los Angeles Sanitation District waste water treatment plants, however, may not always be available.

Monitoring of Groundwater Levels and Storage

Both UWCD and the County of Ventura monitor groundwater levels in the Piru and Fillmore basins. UWCD analyzes these data and produces hydrographs of groundwater levels and changes in storage. In addition it uses groundwater elevation data to draw groundwater surface elevation contours, allowing for interpretation of groundwater flow directions in the basins. The groundwater level hydrographs and groundwater surface contours will be included in the Piru and Fillmore Basins Annual Groundwater Conditions Report that will be submitted to the AB 3030 Council. In the Annual Report, the current status of the basins will be analyzed and any potential problems will be identified. Figure 28 shows a map of the wells currently used to monitor groundwater levels in the basins.

Facilitating Conjunctive Use Operations

UWCD presently uses surface water and groundwater conjunctively through storage of winter runoff in Lake Piru with subsequent release of this water for recharge during the dry season. This regular recharge is fundamental to the long-term groundwater health of the basins. It is the intent of this Plan to encourage such operations. See Section 3.6.5 .

Identification of Well Construction Policies

The County of Ventura well ordinance requires a permit prior to drilling a well. The ordinance also has requirements on well construction which include sanitary seals and sealing zones. In the present circumstances, these requirements appear to be adequate for the Piru and Fillmore basins. However, this Plan has the right to address potential well construction policies in the Piru and Fillmore basins in the future.

Construction and Operation of Various Recharge, Storage, and Extraction Projects

As part of its authorization under the California Water Code, UWCD operates a variety of water conservation projects in and adjacent to the Piru and Fillmore basins. Facilities include Lake Piru and the Piru Spreading Grounds. It is the intent of this Plan to encourage the continuation of such operations, and any expansions that may be necessary.

Development of Relationships with State and Federal Regulatory Agencies

It is the intent of this Plan to operate under the requirements set forth by the variety of County, State and Federal agencies that have jurisdiction over various aspects of surface water and groundwater. Further development of relationships with some of these agencies through UWCD could be of benefit to basin management efforts. This could be accomplished through assistance with studies and by grants from the agencies. It should be stressed, however, that this Plan was formulated to ensure local control of groundwater management and it is the intent of this Plan to foster this local control in as many aspects of the management of the basins as possible.

Review of Land Use Plans and Coordination with Land Use Agencies

The Groundwater Management Act allows review of land use plans and coordination with land use planning agencies to assess activities which create a reasonable risk of groundwater contamination. In the Piru and Fillmore basins, land use planning is coordinated by the City of Fillmore (within City limits) and the County of Ventura. It is the intent of this Plan for the Council to play an active role in land use planning related to aquifer contamination and aquifer recharge. As an action item in this Plan, the Council will encourage the land use planning agencies to formally recognize the primary recharge areas for the Basins. In addition the Council will encourage the land use planning agencies to establish provisions for the protection of recharge areas from elimination or from future potential threats of contamination.

In addition, the Council will encourage local planning departments to inform the Council of proposed projects that could impact the recharge areas. This may best be accomplished by having the Council on the mailing lists for all projects requiring environmental review in the Plan area.

To encourage coordination between this Management Plan, the AB 3030 Council and County government, the chairman of the Council will be appointed as the designated contact person. This contact person will meet with the local County Supervisor to discuss groundwater issues and help coordinate land use planning.

3.6 RECOMMENDED FUTURE STRATEGIES

3.6.1 Alternative Water Resources Management Plan (AWRM)

In 2008 A Memorandum of Understanding (MOU, 2008) was signed among the Santa Clarita Valley Sanitation District of Los Angeles County, Upper Basin Purveyors, United Water Conservation District and Ventura County Agricultural Water Quality Coalition. The MOU agrees on a basin wide management approach for chloride mitigation which is referred to as the Alternative Water Resources Management (AWRM) plan. The AWRM plan was an integral part of the upper Santa Clara River TMDL approved by the Los Angeles Regional Water Quality Control Board to achieve compliance (Los Angeles Regional Water Quality Control Board, 2008). The AWRM plan involves lowering chlorides in the Santa Clara River upstream of the County line and exporting high chloride groundwater from the eastern Piru basin.

The AWRM plan proposes the construction of a small reverse osmosis plant at the near the County line, allowing the use of approximately 3 mgd of reverse osmosis permeate as a source of dilution water. The reverse osmosis permeate will either be discharged for blending in the Santa Clara River near the County line, or used for blending with high chloride groundwater pumped from the eastern Piru basin. The brine from the RO plant will be injected into old oil field wells located in Los Angeles County.

A well field of approximately ten wells would be constructed in the eastern Piru basin. High chloride groundwater will be pumped and blended with the RO permeate. A pipeline would be constructed to convey this blended water to near the Fillmore Fish Hatchery at the west end of the Piru basin, where it will be discharged to the Santa Clara River. The intent is to have the water flow to the Freeman Diversion, and not recharge the Fillmore Basin. The pipeline is necessary to get the blended water around the "dry gap" in the central portion of the Piru basin. The chloride concentration of the blended water cannot exceed 95 mg/L.

This project will require adjustments to a number of surface water and groundwater water quality objectives. The current Santa Clara River surface water quality objective of 100 mg/L chloride will be maintained west of Piru Creek. The AWRM plan proposes the chloride surface water quality objective east of the County line be revised from 100 mg/L to 150 mg/L chloride, and the surface water quality objective in the eastern Piru basin be revised from 100 mg/ L to 117 mg/L. During drought periods, when chloride in Castaic Lake exceeds 80 mg/L, surface water quality concentrations of up to 130 mg/l would be allowed in eastern Piru. The goal, however, is to maintain a 117 mg/L chloride concentration in the Santa Clara River at the County line. During droughts, growers of salt-sensitive crops in eastern Piru, including Rancho Camulos, will be protected by the delivery of water from alternative sources, such as water from Castaic Lake and groundwater pumped from the Saugus formation in the Eastern groundwater basin. These sources may also be used to dilute chloride in the Santa Clara River in the lower reaches west of the County line. Groundwater affected by the higher chloride concentrations allowed during drought periods would later be exported from the basin.

Pumping from the well field can occur during dry years but most of the pumping will occur in average and wet years. When RO permeate is used as dilution water in the Santa Clara River it is not available for blending with water from the Piru well field. During wet years the Piru basin will fill back up with low chloride water from precipitation runoff. Much of the blended water discharged near the Fish Hatchery is expected to reach the Freeman Diversion and be routed to irrigation pipelines to help mitigate the salt load associated with seawater intrusion associated with the persistent pumping in coastal areas. The well field and pipeline would be financed by the Los Angeles Regional Sanitation District and operated by UWCD.

Additional elements of the AWRM plan program include the reduction of chloride in waste water effluent with the use of UV disinfection and the elimination of self regenerating water softeners (the City of Santa Clarita voted in November 2008 to prohibit self regenerating water softeners).

To insure protection of downstream water quality an NPDES permit will be needed for discharge near the west end of the Piru basin. In addition, increased monitoring in the Fillmore and Santa Paula Basins, and an extension of the Groundwater/Surface Water Interaction chloride transport model to the Freeman Diversion will be needed.

On December 11, 2008 the Los Angeles Regional Water Quality Board approved the proposed changes in the surface water quality objectives provided that all aspects of the AWRM program are in place. The changes in the objectives are conditional and are based on the implementation of the AWRM plan. As of 2011, the Santa Clarita Valley Sanitation District has not approved a rate increase to finance the initial steps of the project, which would include the extension of the chloride transport model to the Freeman Diversion, the design of the well field and pipeline, reverse osmosis plant and brine disposal system, and the completion of the CEQA process. This lack of action is primarily due to the objection by constituents to the proposed increases in sewer rates.

3.6.2 Salt and Nutrient Management

In November 2008 the State Water Resources Control Board adopted a statewide recycled water policy that encourages the increase in use of recycled water. The policy calls for the increase in the use of recycled water over 2002 levels by one million acre-feet by 2020 and 2 million acre-feet by 2030 (California State Water Resources Control Board, 2008). The policy also calls for the adoption of salt/nutrient management plans for all groundwater basins in California by 2014. This would require that local water agencies, waste water agencies and other stake holders prepare a salt/nutrient management plan for each basin/subbasin in California. This would include compliance with CEQA and participation by the Regional Water Quality Control Board. The purpose of these plans is to insure that recharging of recycled water or increase of direct use will not adversely impact the groundwater quality of California groundwater basins.

The salt/nutrient management plan will be a formal report that will include each groundwater basin within Ventura County. The current intention is that the Ventura County Watershed Protection District will serve as the lead agency for the plan for the groundwater basins of the lower Santa Clara River. In the Piru and Fillmore basins all recycled wastewater is currently used as irrigation water or percolated to groundwater and it is unlikely that future salt loading will change from current conditions. To view the State Boards recycled water policy visit: http://www.waterboards.ca.gov/water_issues/programs/water_recycling_policy/index.shtml

3.6.3 Floodwater Management for Groundwater Replenishment

In addition to the increased use of recycled waste water use, the State's recycled water policy sets a goal to increase the use of storm water for groundwater replenishment. The goal is to increase storm water use over 2007 use by at least 500,000 acre-feet by 2020 and one million acre-feet by 2030 (California State Water Resources Control Board, 2008). Flood water management falls under the jurisdiction of the Ventura County Watershed Protection District.

3.6.4 Waste Water Recycling

As mentioned previously in this Plan, both the Piru Waste Water Treatment Plant and the Fillmore Waste Water Treatment plant have been recently modified and expanded. The Fillmore Treatment Plant is currently recycling 200,000 gallons per day (0.614 ac-ft/day or 224.1 ac-ft/yr) out of 1,000,000 gallons per day (3.07 ac-ft/day or 1120.5 ac-ft/yr) to two schools, a newly constructed green belt and the new Two Rivers Park. The Piru waste water treatment plant currently does not recycle any effluent. However there are future plans to recycle 100% of the effluent to adjacent citrus groves. Ventura County Water Works District is in the process of writing a

grant application to the State to get initial funding to enable the recycling of waste water effluent from the Piru Waste Water Treatment Plant. (Ventura County Water Works District No. 16, 2011).

3.6.5 Conjunctive Use Projects

The Piru and Fillmore basins have historically filled in the wet years 1983, 1993 1995, 1998 2005 as the sediments in these basins are highly permeable and easily recharged by the Santa Clara River. This is evidenced by the hydrographs in Figure 11 and Figure 21 which show the basins filling rapidly in these years. During these years recharge of surface water from the Santa Clara River may be rejected. Some of this excess surface water could be captured if additional groundwater is pumped to create available aquifer storage. This pumped groundwater could be utilized in basins that do not recharge as easily as the Piru and Fillmore basins, such as the Santa Paula basin. The location and timing of this additional pumping would have to be carefully evaluated.

3.6.6 Drought Plan for Groundwater Pumping

There is currently no drought plan established for agricultural pumpers. There exists a water shortage contingency plan for the City of Fillmore, which is contained in the City of Fillmore 2005 Urban Water Management Plan. The City obtains 100% of its water from groundwater pumping. The City has four stages of action which are shown in Table 11 below.

Table 11. City of Fillmore Water Shortage Contingency Plan Customer Reduction Goals

Water Supply Shortage Condition	Stage	Customer Reduction Goal	Type of Rationing Program
Up to 15%	I	15%	Voluntary
15-25%	II	25%	Mandatory
25-35%	III	35%	Mandatory
35-50%	IV	50% or >	Mandatory

The priority use during a shortage is ranked as follows:

1) Minimum health and safety allocations for interior residential needs (includes single family, multifamily, hospitals and convalescent facilities, retirement and mobile home communities, and student housing, and fire fighting and public safety)
2) Commercial, industrial, institutional/governmental operations (where water is used for manufacturing and for minimum health and safety allocations for employees and visitors) to maintain jobs and economic base and community (not for landscape uses)
3) Permanent agriculture (orchards, vineyards, and other commercial agriculture which would require at least five years to return to production)
4) Annual agriculture (floriculture, strawberries, other truck crops)

5) Existing Landscaping
6) New customers, proposed projects without permits when shortage declared

3.6.7 Groundwater Storage

UWCD has plans to evaluate oil well and water well electrical logs in both the Piru and Fillmore basins. This work will assist in the calculation of groundwater basin storage based on the depth of fresh water, specific yield values and well depths. Currently only changes in groundwater storage are calculated, but not total basin storage.

3.6.8 Groundwater Modeling

UWCD's Groundwater Department has plans to rebuild and recalibrate the Ventura Regional Groundwater Model. Once the model is rebuilt and recalibrated it will be tool to assist in evaluating water supply projects with the Piru and Fillmore basins. It can also potentially be used as a tool to assist in calculating the safe yield of the basins.

3.6.9 Groundwater Management Plan Updates

The AB 3030 Groundwater Management Plan will be updated every 5 years with input from the AB 3030 management council, UWCD and the Public.

3.7 Implementation of the Groundwater Management Plan (Action Items)

3.7.1 Monitoring

Monitoring of groundwater and surface water conditions in the Piru and Fillmore basins is currently conducted by UWCD, Ventura County water Resources, and the US Geological Survey (under contract to UWCD). This monitoring includes maintaining monitoring wells, periodic measurement of groundwater levels, sampling for surface water and groundwater quality, compilation and analyses of monitoring results, and collecting groundwater pumping information related to the District's groundwater extraction fees. UWCD will evaluate the present monitoring network, and add any monitoring as needed. Figure 28 shows a map of wells used to monitor groundwater levels. Figures 15-17 and Figures 25-26 show wells and surface water sites monitored for water quality.

An annual report on groundwater conditions in the Piru and Fillmore basins will be prepared by UWCD and presented to the Groundwater Council for review. This annual report will summarize groundwater levels during the year from key wells, groundwater quality, surface water quality, new wells constructed and abandoned in the basins, and annual extractions. Changes in groundwater conditions will be noted, and critical trends will be identified. If indications of overdraft are noted, the report will include an analysis of these conditions and a recommendation on how to address the cause(s) of the overdraft.

3.7.2 Groundwater Exports

A groundwater export policy has been written that requires a written application for any new groundwater pumping that will extract water for export outside of the Piru and Fillmore basins. This policy will minimize the potential of over-pumping related to groundwater exports. The export policy is included as Appendix A in this Groundwater Management Plan update.

3.7.3 Appointment of Contact to County

The chairman of the AB 3030 Council will be appointed as the designated contact person to the County. This will encourage coordination between this management plan, the AB 3030 Council, and Ventura County government. Contact with the County supervisor, County planning and County Watershed Protection District will be necessary. The chairman will report to the Council the results of the meetings.

3.7.4 Protection of Recharge Areas

The AB 3030 Council will ensure that its name is on the list of appropriate organizations to be notified during environmental review of projects in the Plan area. The Chairman of Council will work with County Planning to establish protection areas for prime recharge areas of the basins. Likewise, the Council representatives from the City of Fillmore will work with City of Fillmore planners for the same purpose.

3.7.5 Groundwater Council Meetings

The Piru and Fillmore Basin AB 3030 Groundwater Management Council shall meet at least biannually to coordinate the groundwater management program. The Council will hear a presentation by UWCD on the annual groundwater conditions, and review the Annual Report. The Council may consider any changes to the Plan recommended by any member of the Council, using the procedures formulated in the Agreement section of this Plan.

3.7.6 Implementation Schedule

The following schedule will be used in implementing the Groundwater Management Plan:

Table 12. Groundwater Management Plan Implementation Schedule

Plan Item	Description	Implementation Timeline	Status
Monitoring - GW and Surface Water Levels, Quality	Collection of groundwater levels, surface water flows and water quality data	Ongoing activity	Currently performed by UWCD and County; data compiled by UWCD

Table 12. continued

Plan Item	Description	Implementation Timeline	Status
Annual Report	Prepare a summary report of the groundwater and surface water conditions	Annually coinciding with water year	Prepared by UWCD for review by Council
Groundwater Exports	A written plan to review project applications to extract water for export or use outside of the basin	A plan for written application for groundwater export wells has been adopted as part of this GMP	Water Export Plan/Application included as Appendix to this GMP
Appointment of Contact to County	Council member to be liaison with County government	Chairman of Groundwater Management Council will assume the responsibility of being the liaison with County Supervisor upon appointment	Chairman of Groundwater Management Council automatically assumes the liaison role
Protection of Recharge Areas	Council member to work with County agencies to protect prime recharge areas	Chairman of Groundwater Management Council will assume the responsibility of being the liaison with County agencies upon appointment	Chairman of Groundwater Management Council automatically assumes the liaison role
Groundwater Council Meetings	Minimum of biannual meetings (2X/year) to discuss: Annual Report, groundwater conditions, changes to GMP, other issues pertinent to groundwater management	Implement annual and mid-year meetings; more frequent meetings may be requested by the Groundwater Management Council or UWCD if needed	Annual meeting to be held in September to review the Annual Report for the previous water year with mid-year meeting held in April

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5 FIGURES

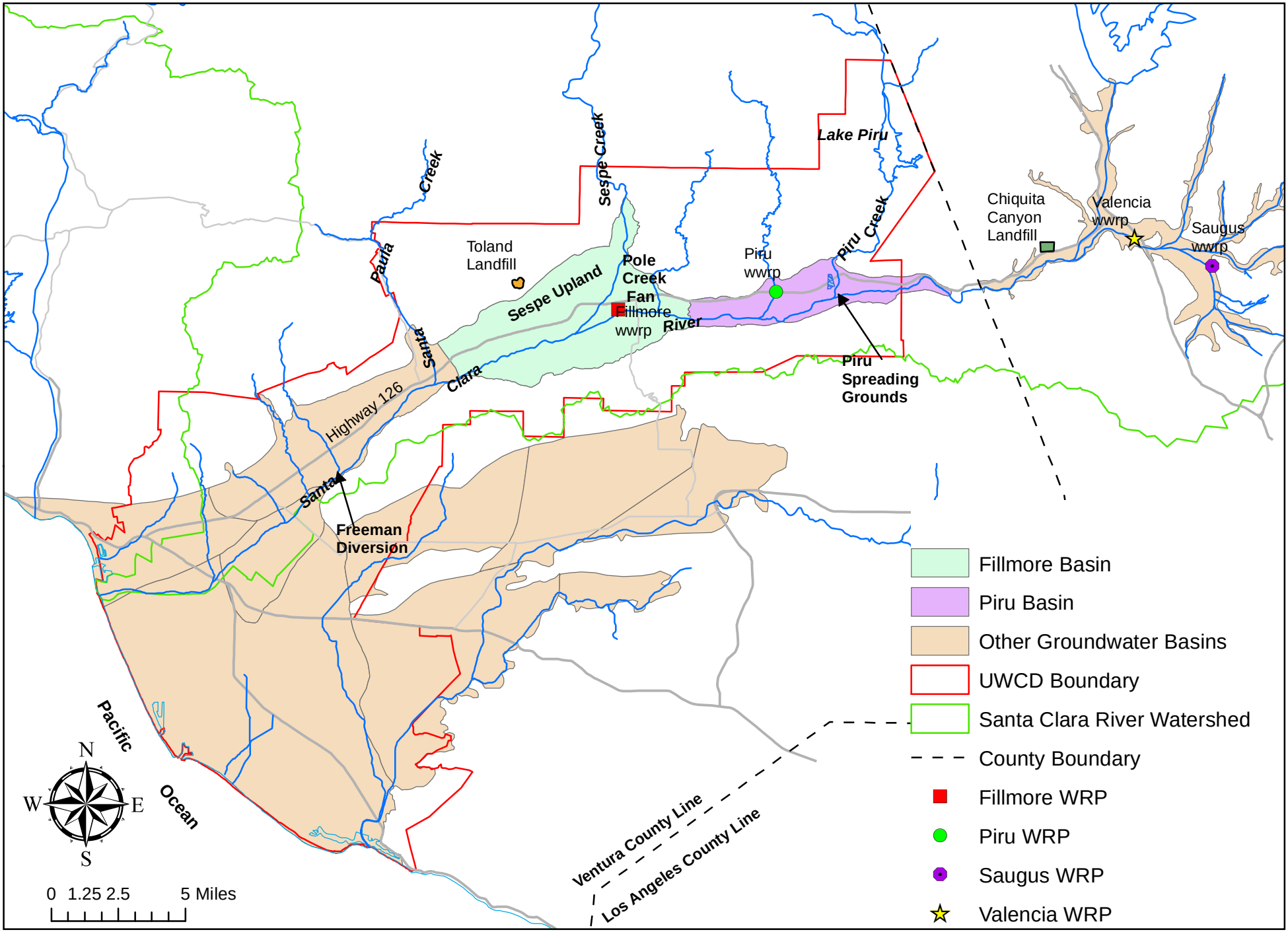


Figure 1. Location Map of the Piru and Fillmore Basins

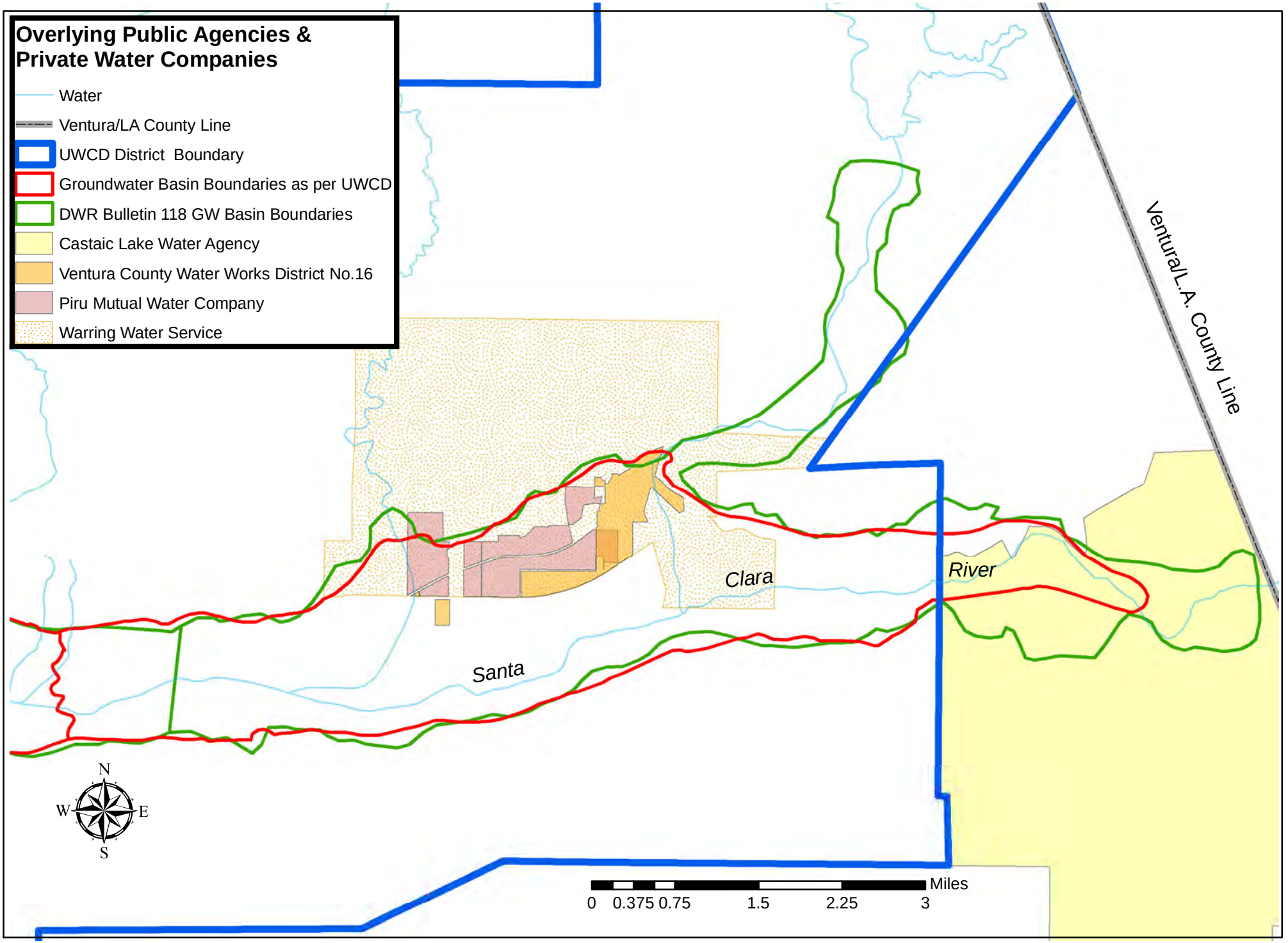


Figure 2. Piru Basin Overlying Public Agencies and Private Water Companies

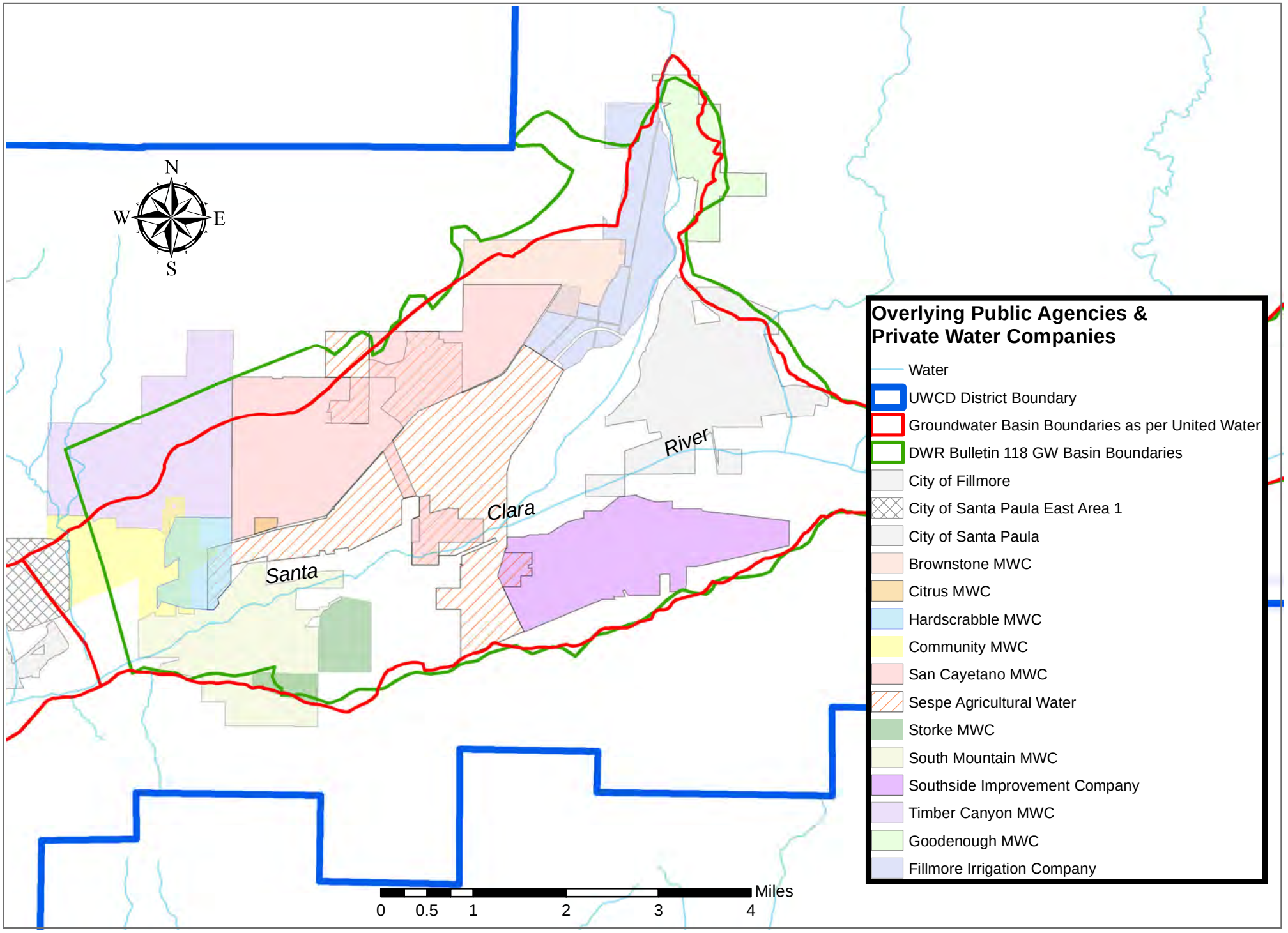


Figure 3. Fillmore Basin Overlying Public Agencies and Private Water Companies

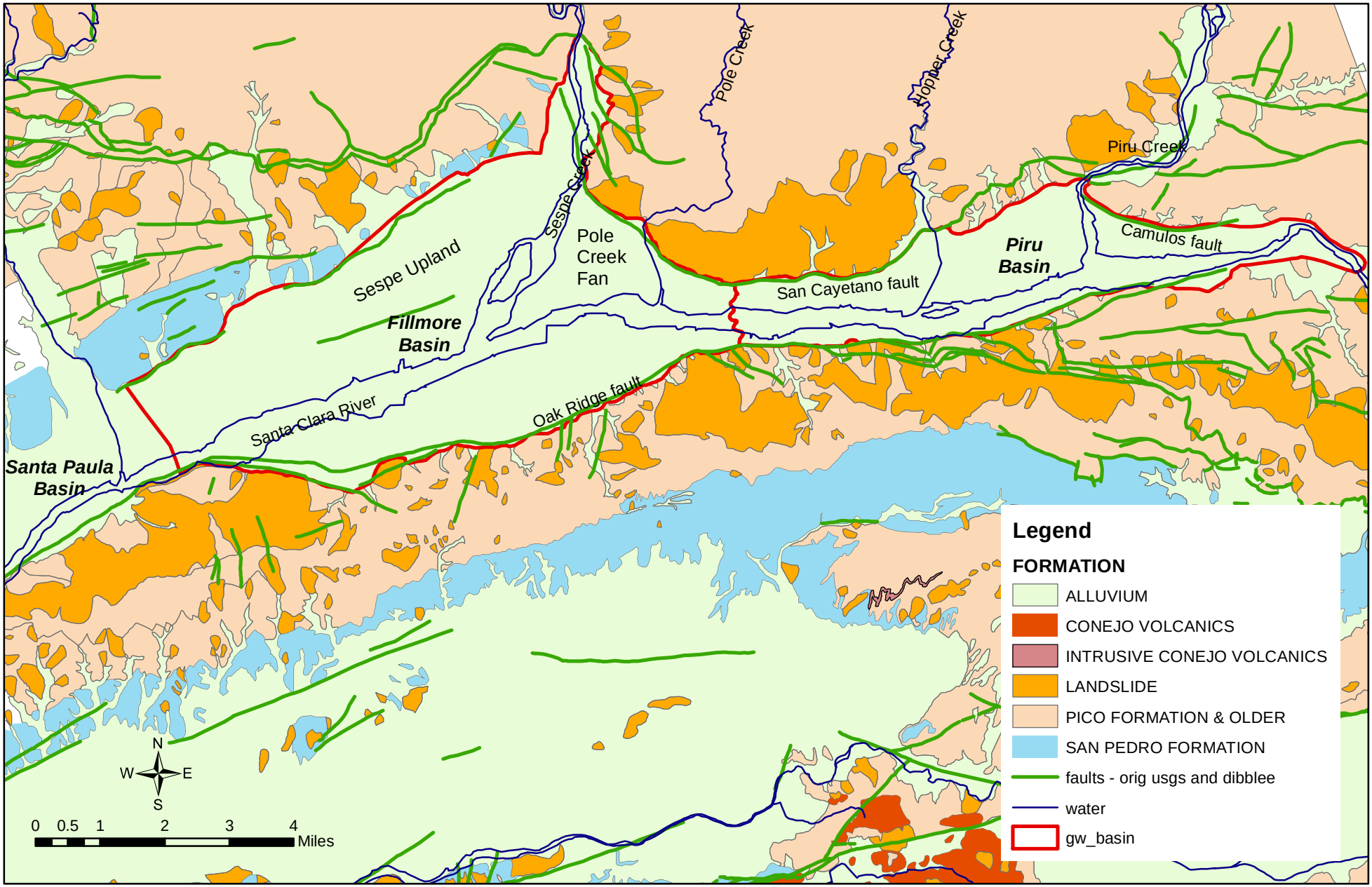


Figure 4. Geology Map for the Piru and Fillmore Basins

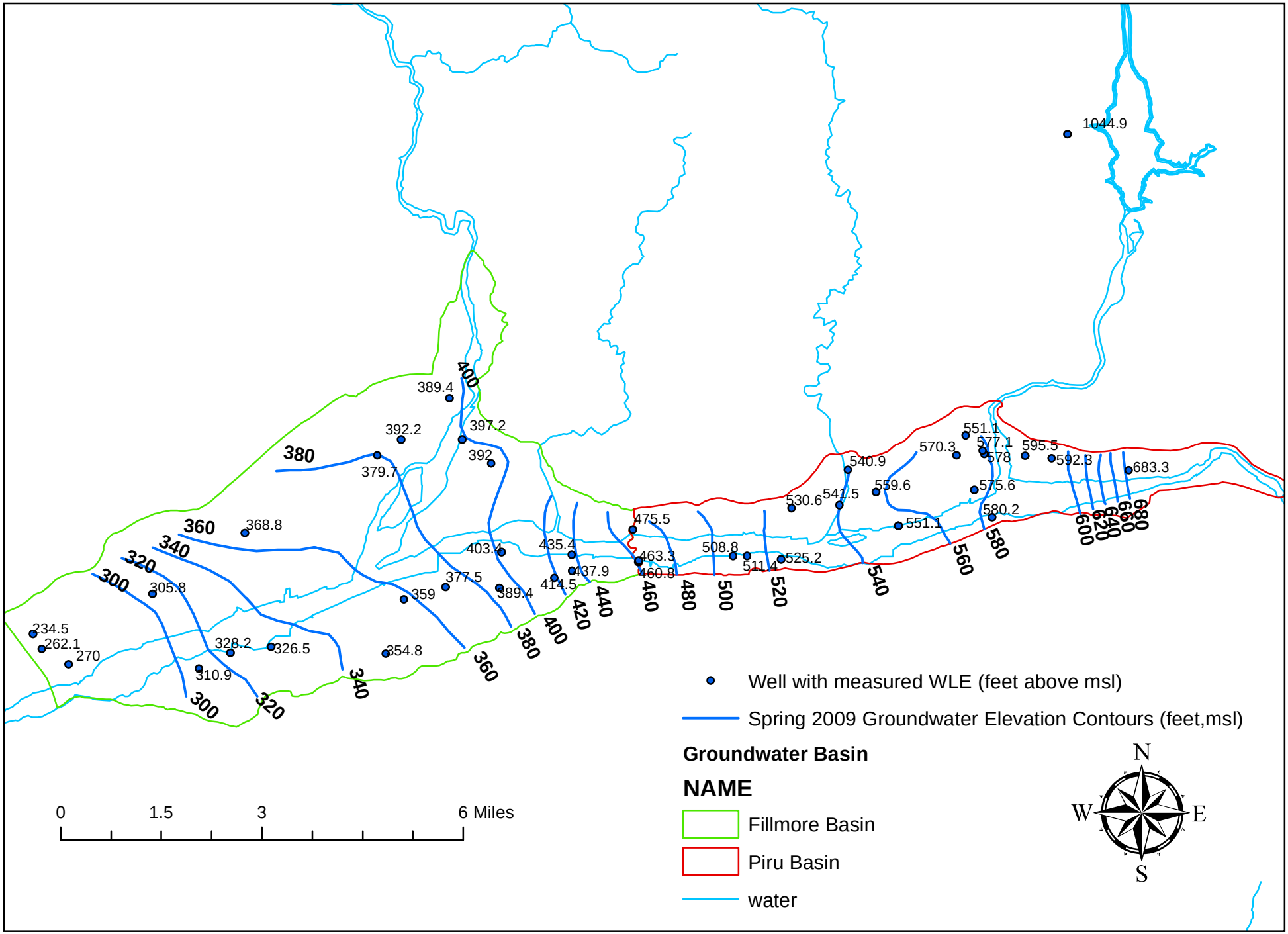


Figure 5. Piru and Fillmore Basin Groundwater Elevation Contours

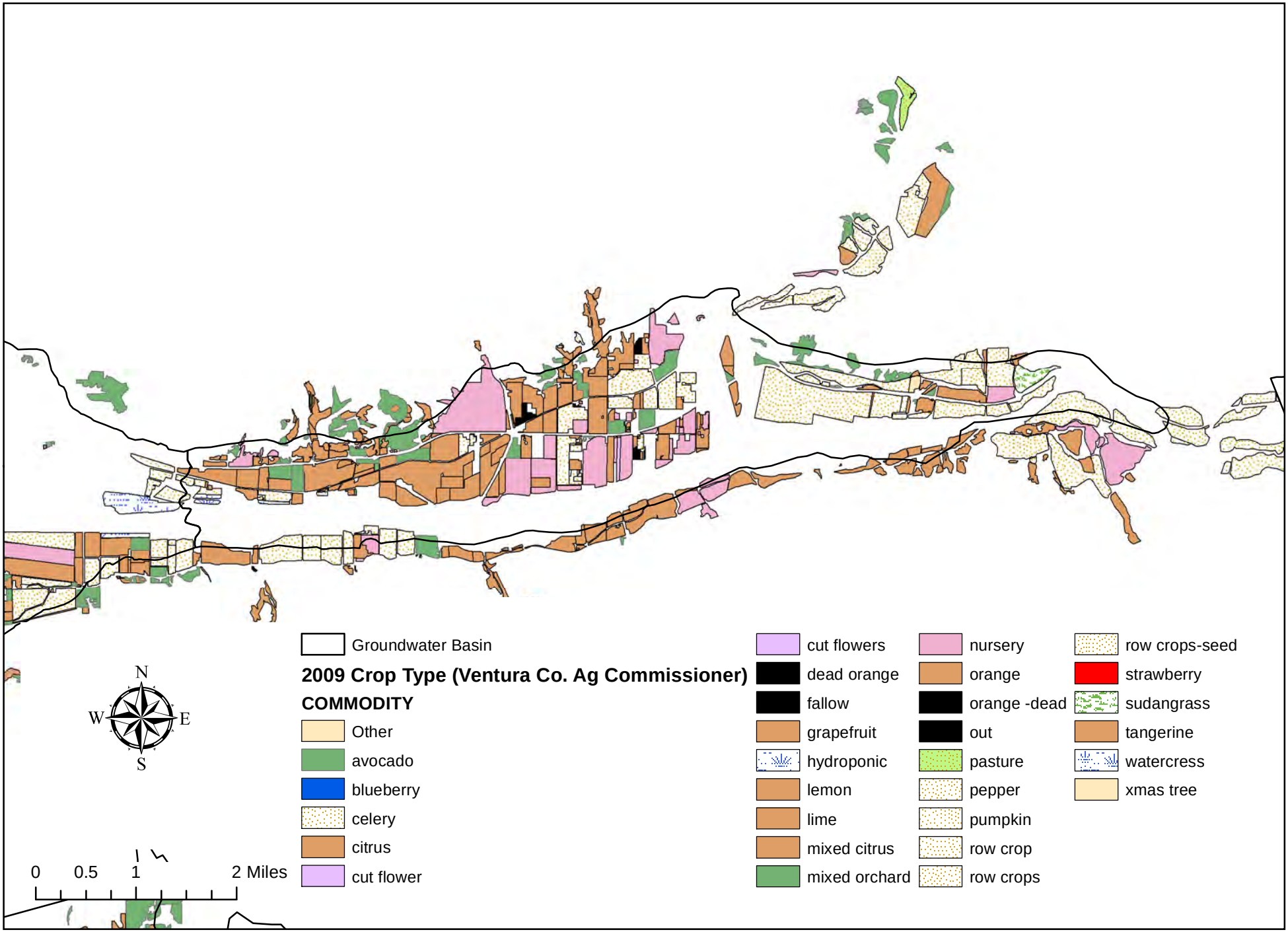


Figure 6. Piru Basin Crop Types

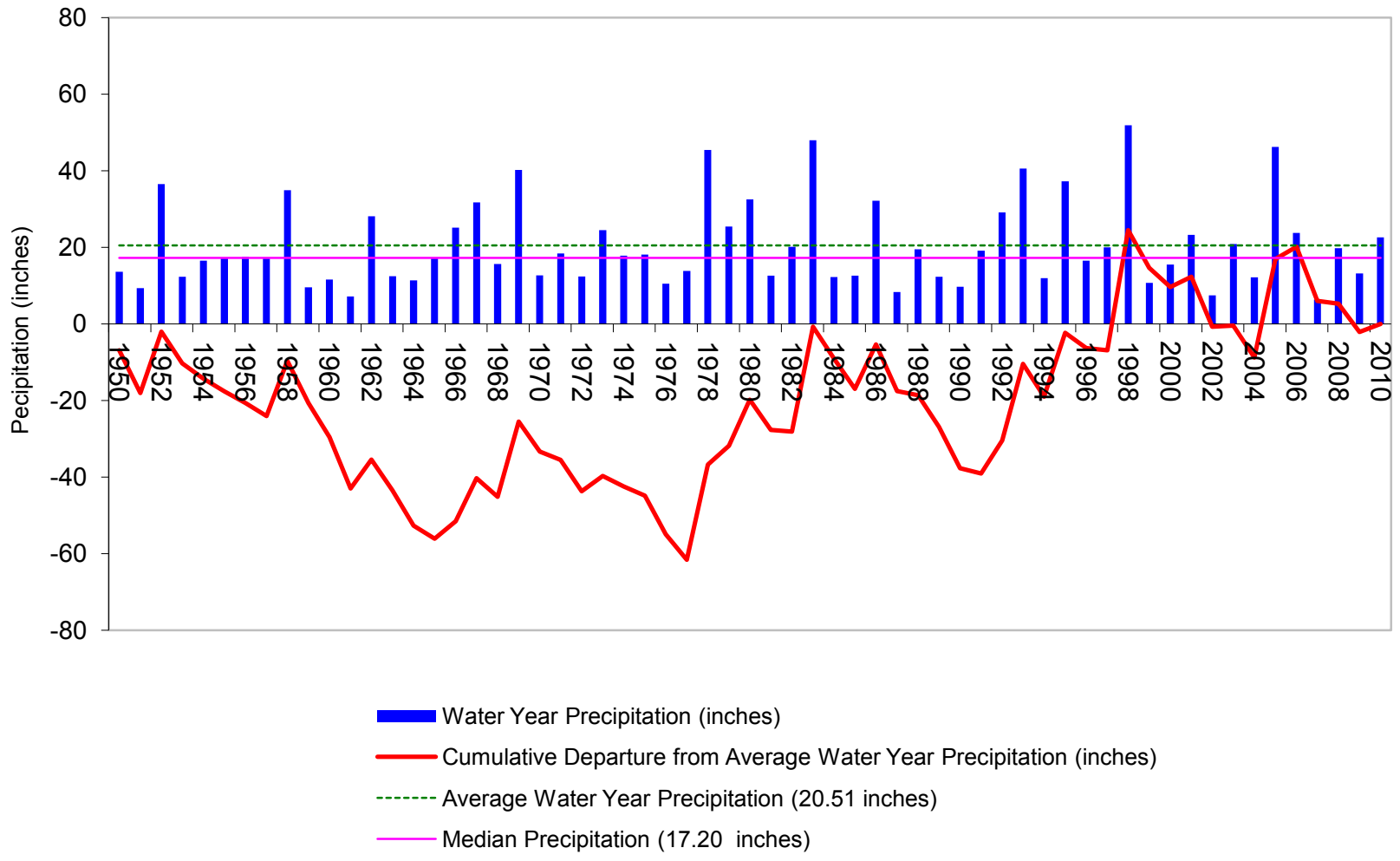


Figure 7. Piru Basin Historical Annual Precipitation

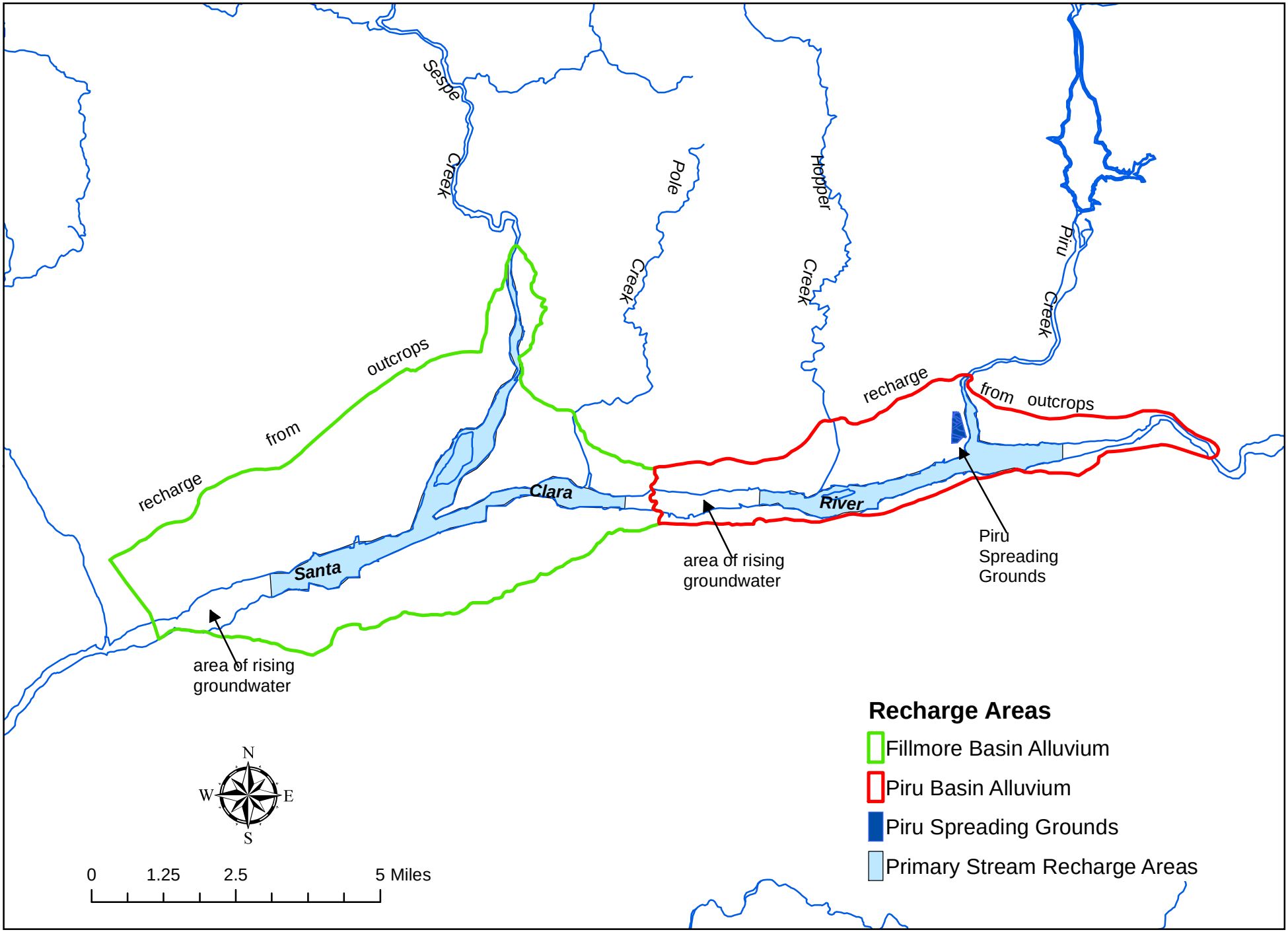


Figure 8. Piru and Fillmore Basin Recharge Areas

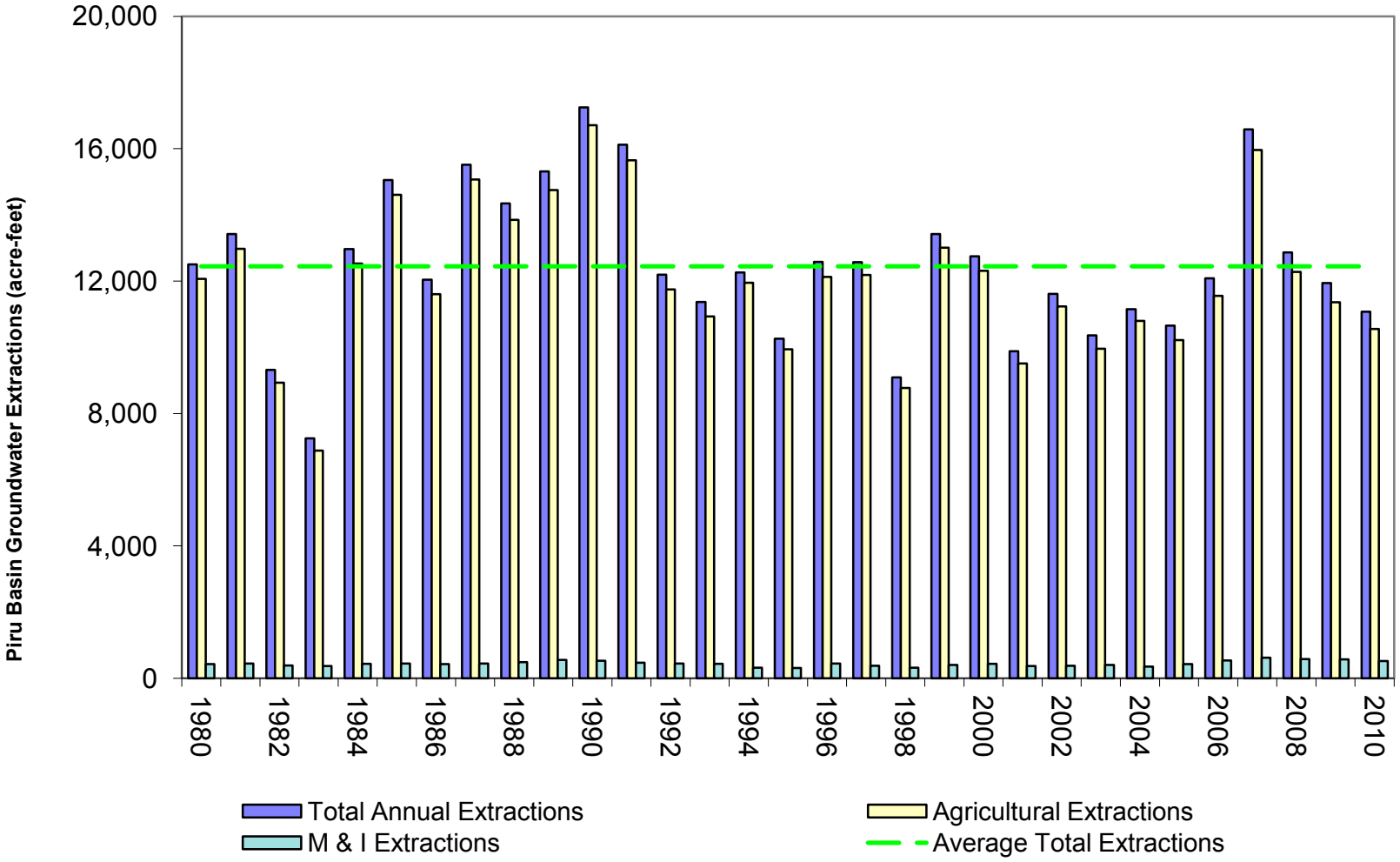


Figure 9. Graph of Piru Basin Historical Annual Groundwater Extractions

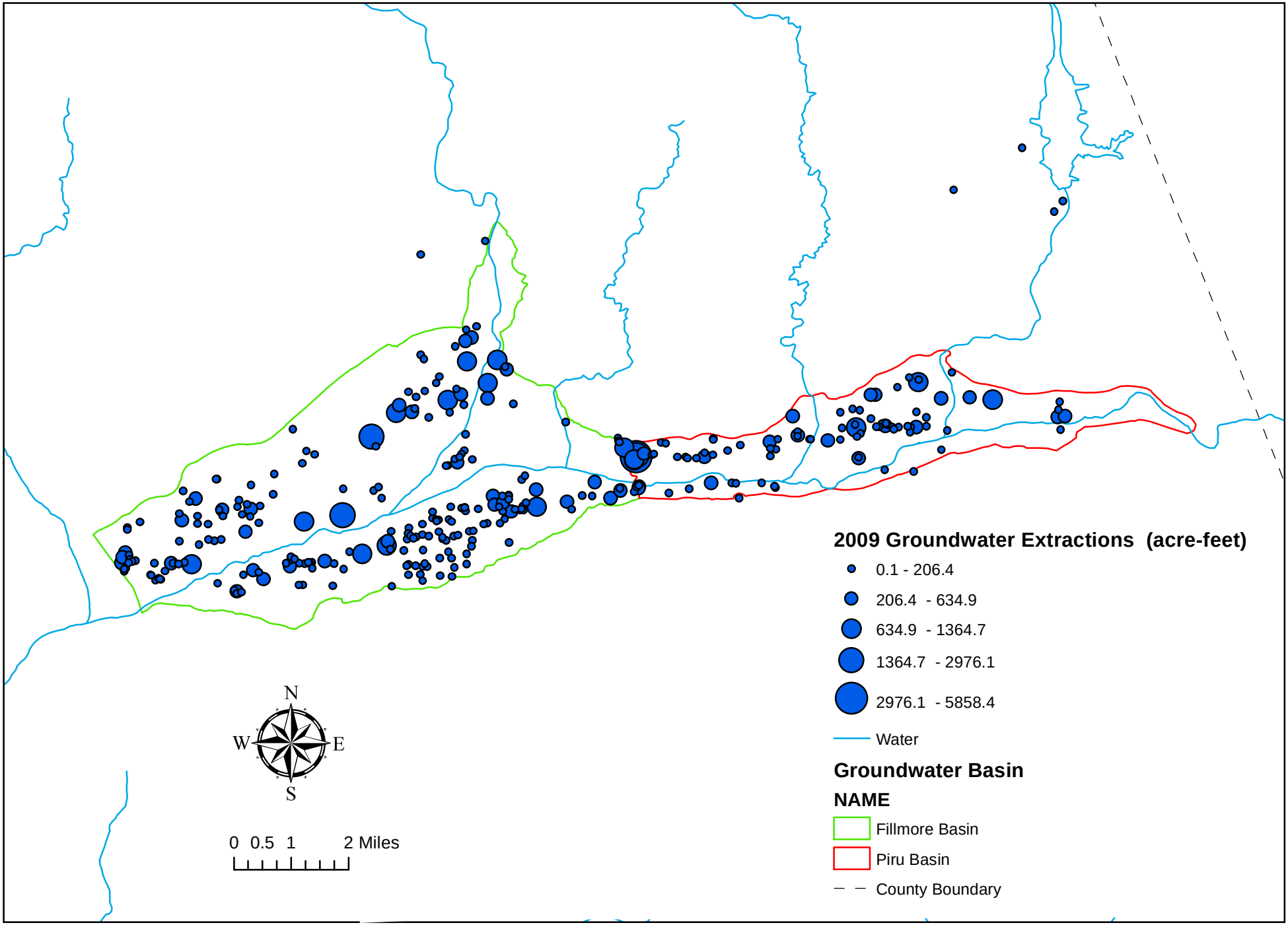


Figure 10. Map of Piru and Fillmore Basin Groundwater Extractions

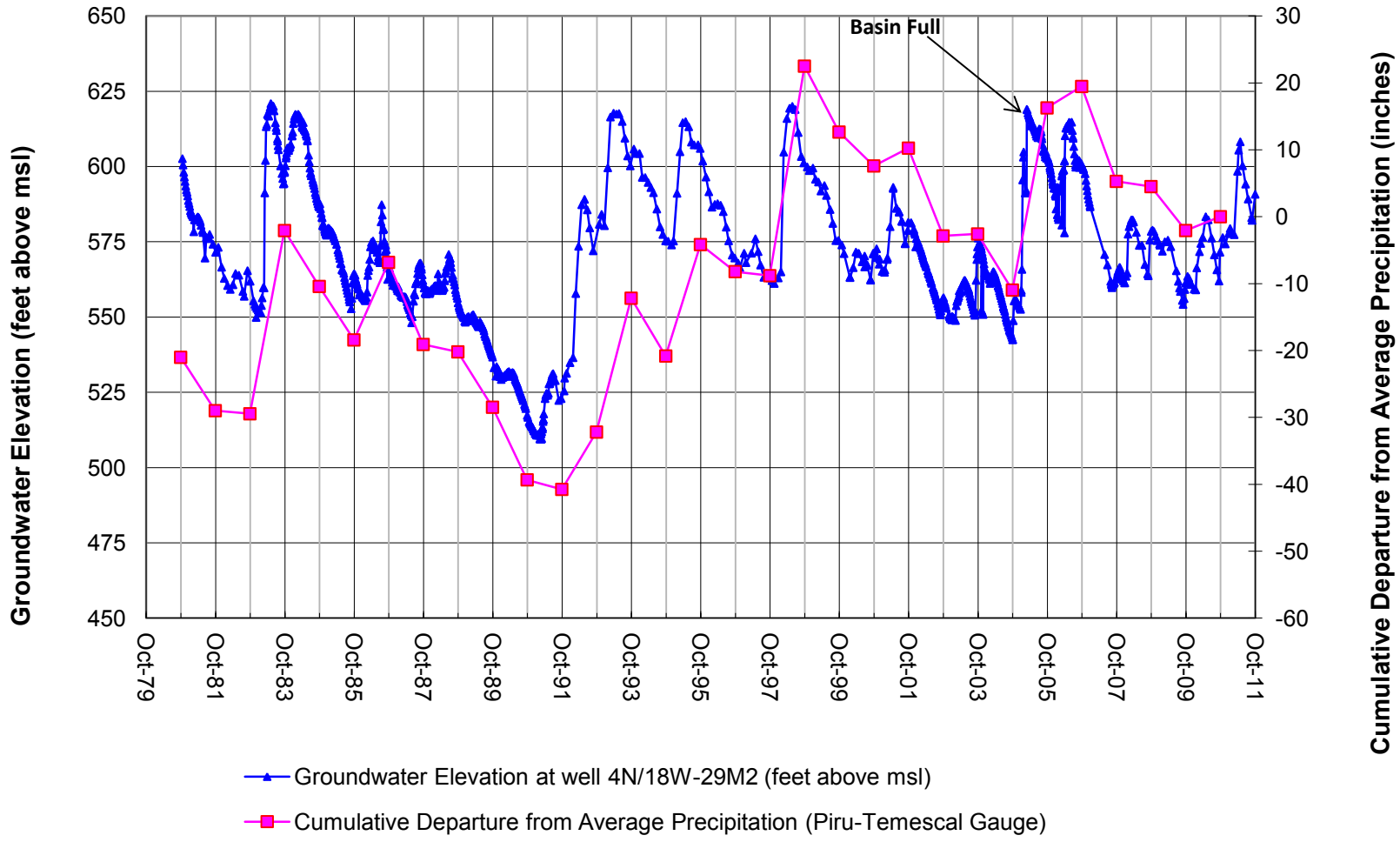


Figure 11. Piru Basin Groundwater Elevation Hydrograph and Cumulative Departure from Average Precipititation

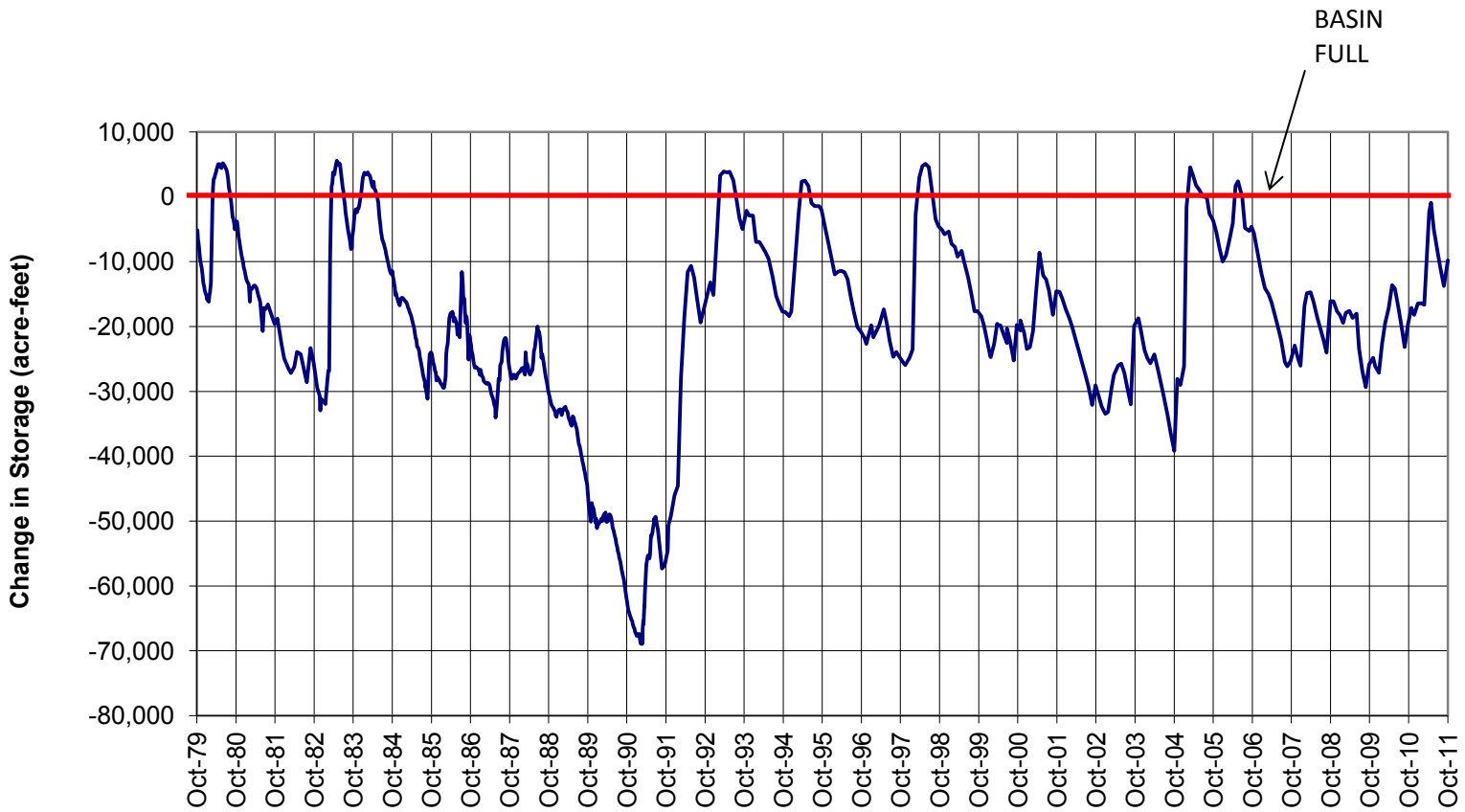


Figure 12. Piru Basin Change in Groundwater Storage

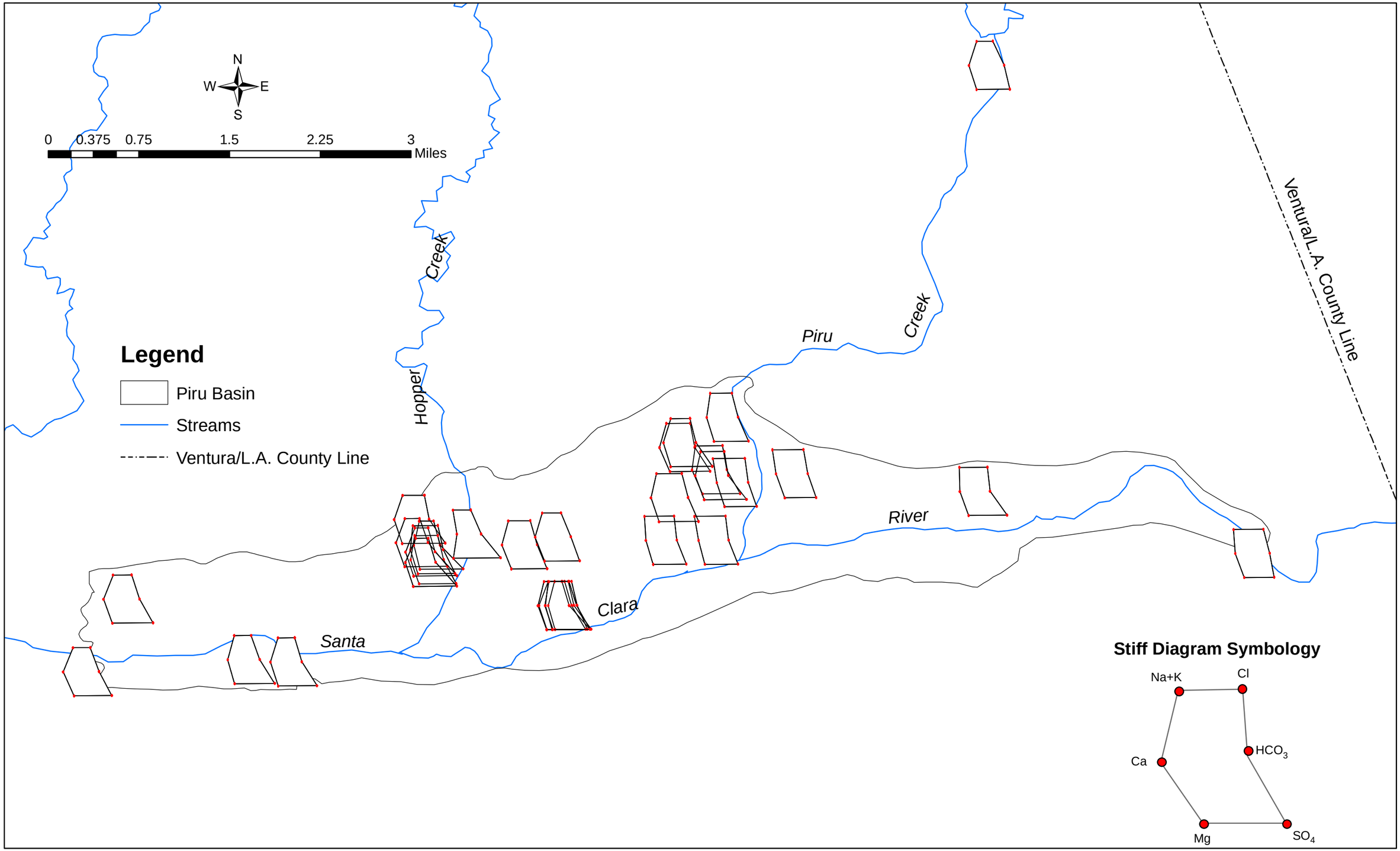


Figure 13. Map Showing Stiff Diagrams of 2010 Groundwater and Surface Water Quality Analyses for Piru Basin

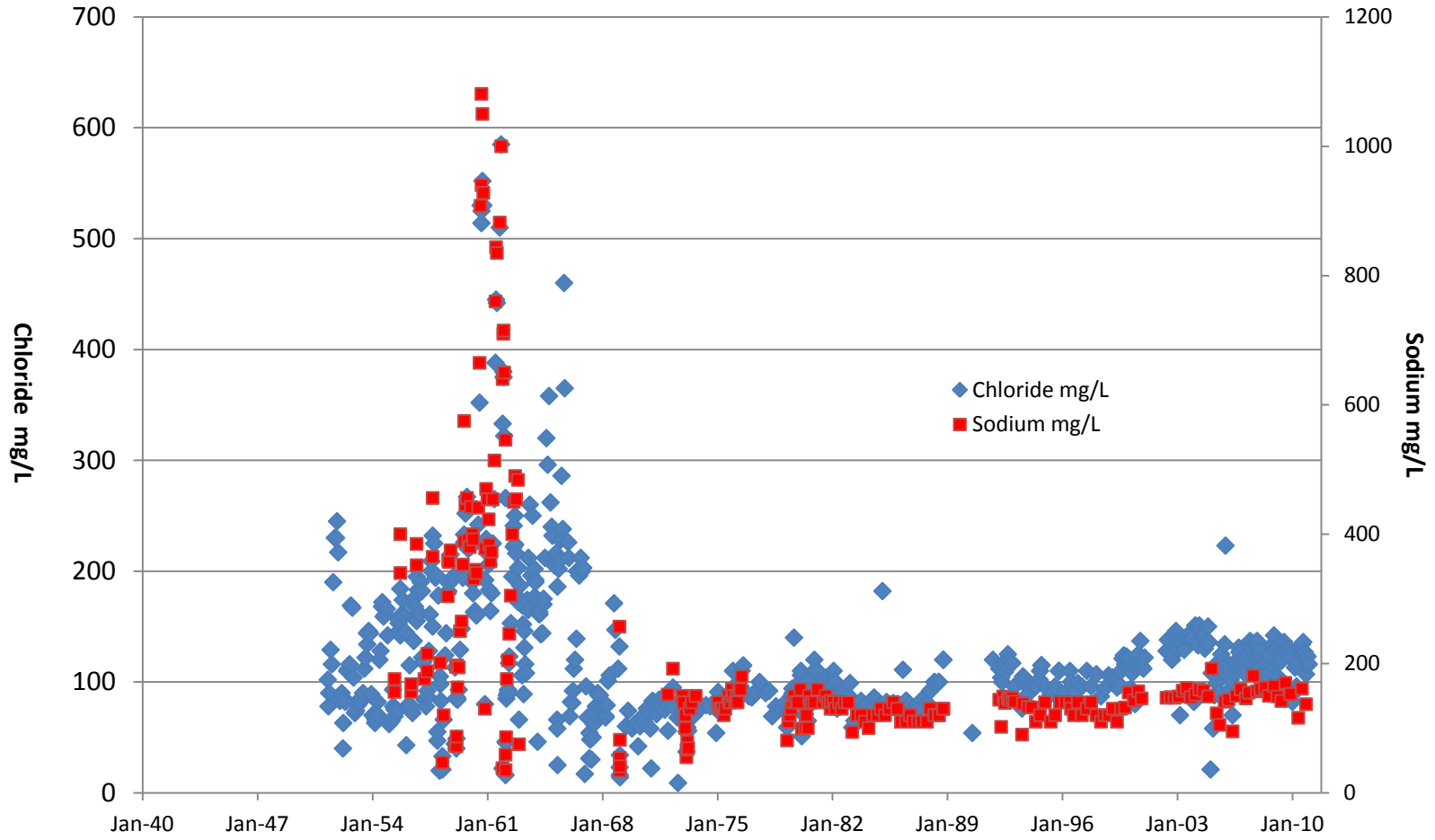


Figure 14. Chloride and Sodium Time Series Graph for the Santa Clara River at Ventura/L.A. County Line

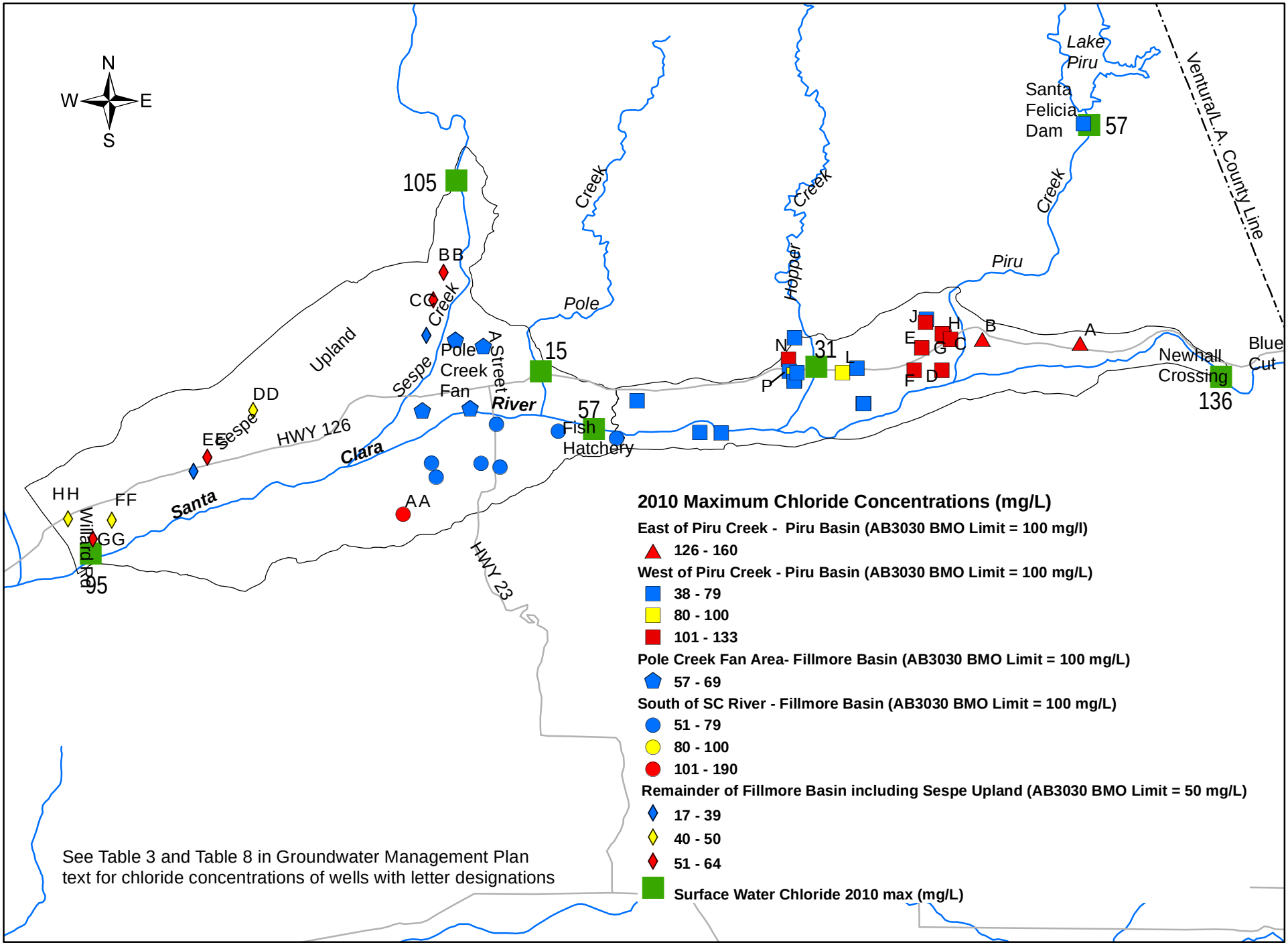


Figure 15. 2010 Maximum Chloride Concentrations in Groundwater and Surface Water (mg/L)

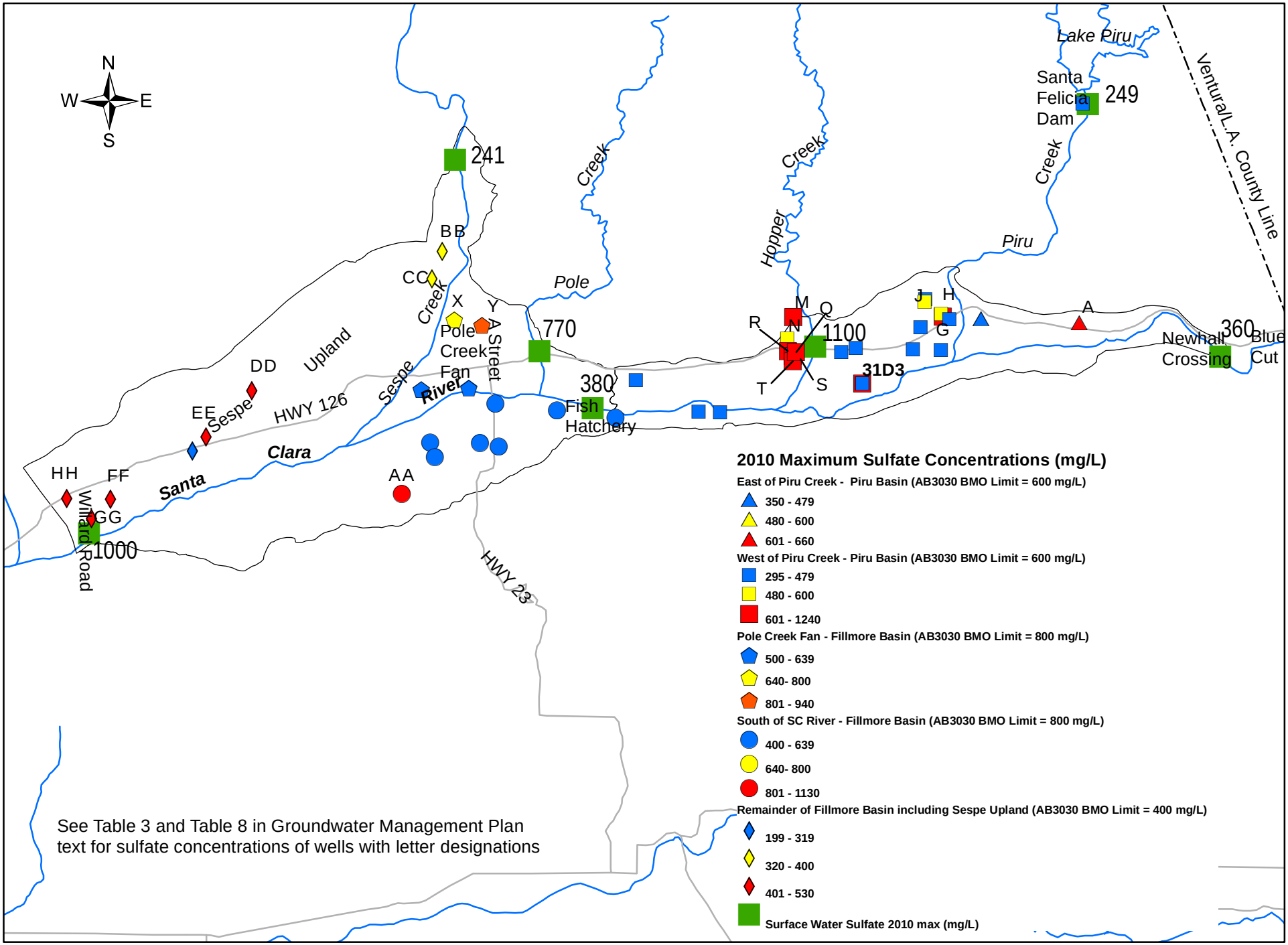


Figure 16. 2010 Maximum Sulfate Concentrations in Groundwater and Surface Water (mg/L)

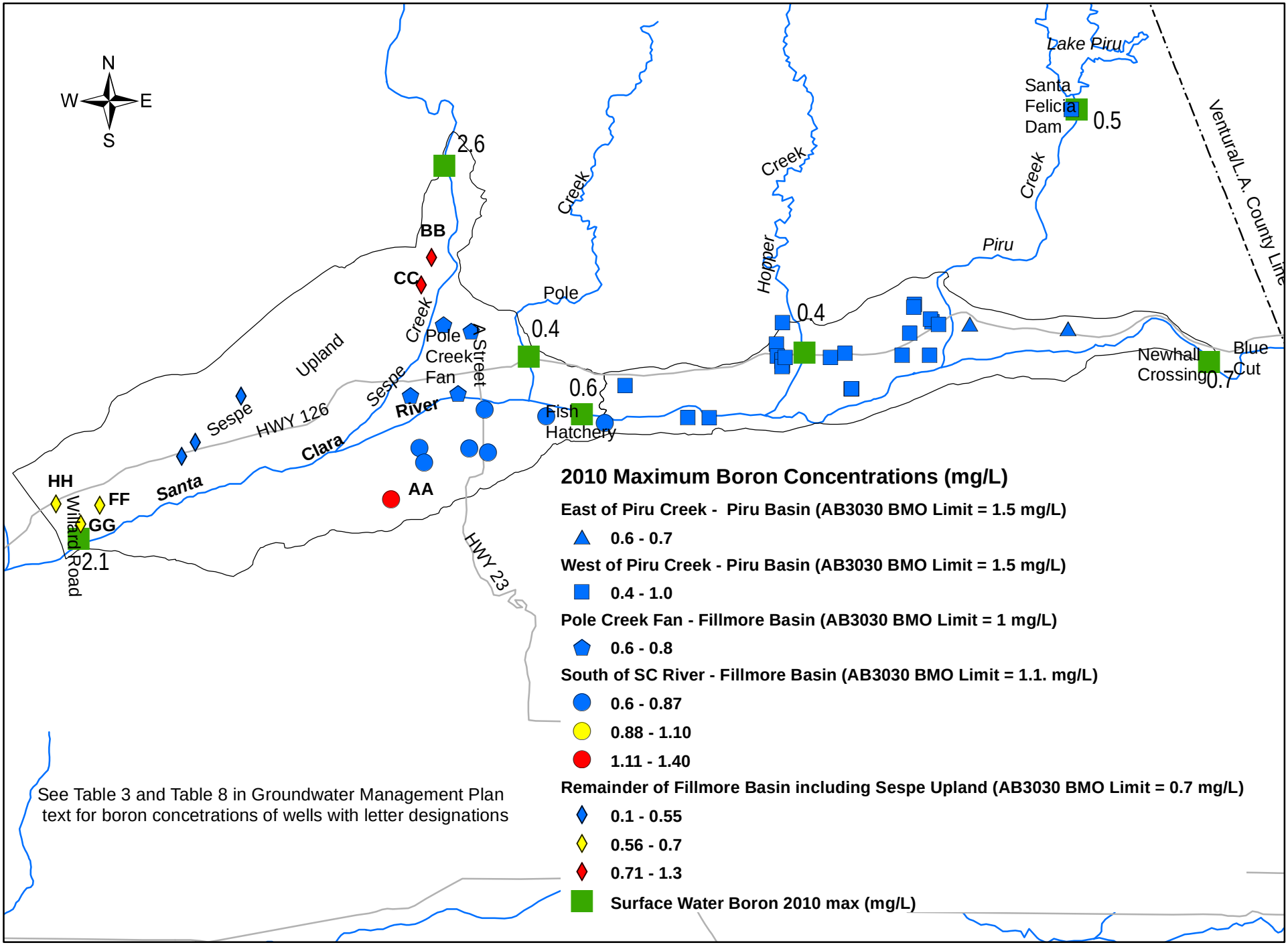


Figure 17. 2010 Maximum Boron Concentrations in Groundwater and Surface Water (mg/L)

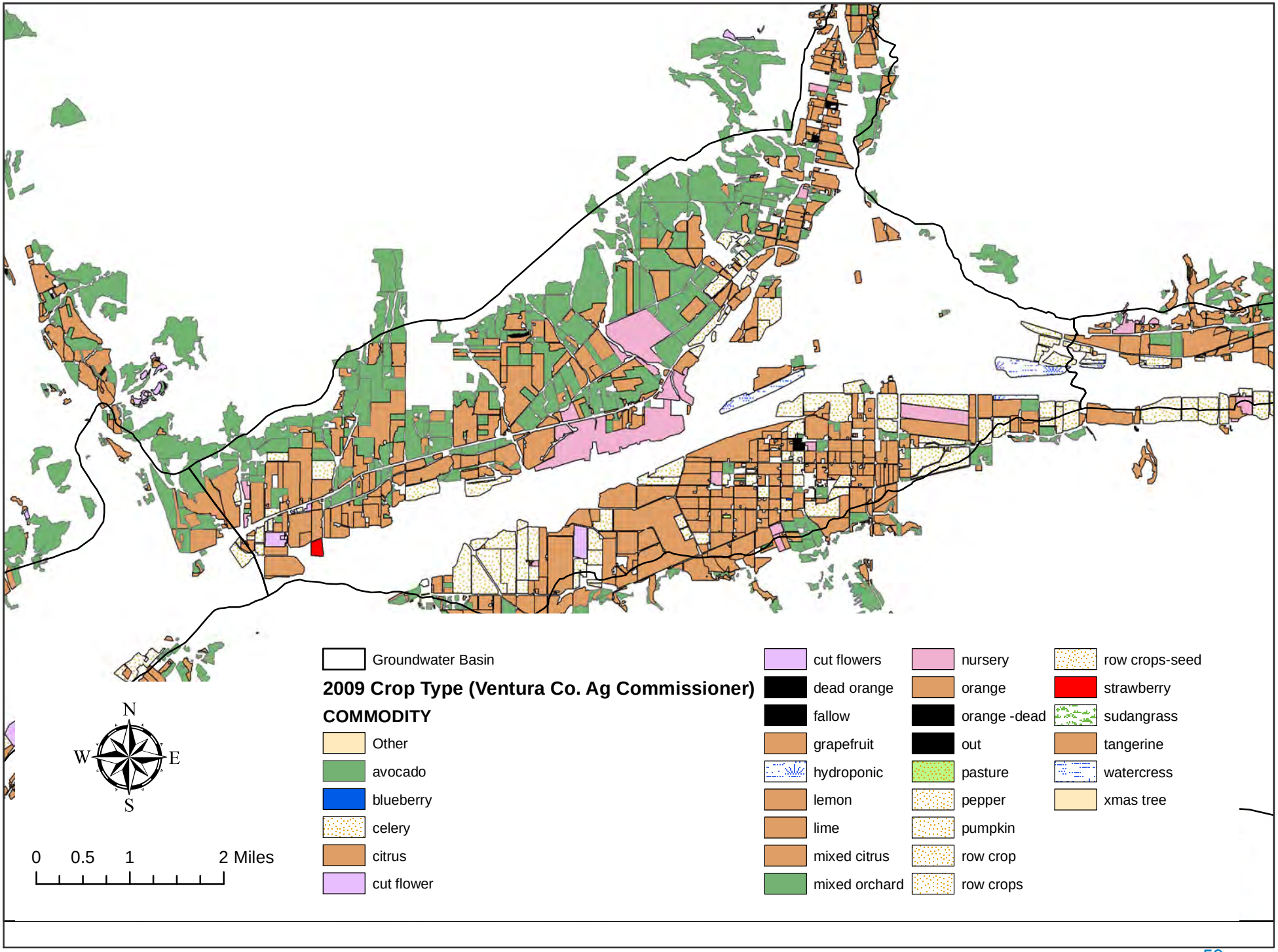


Figure 18. Fillmore Basin Crop Types

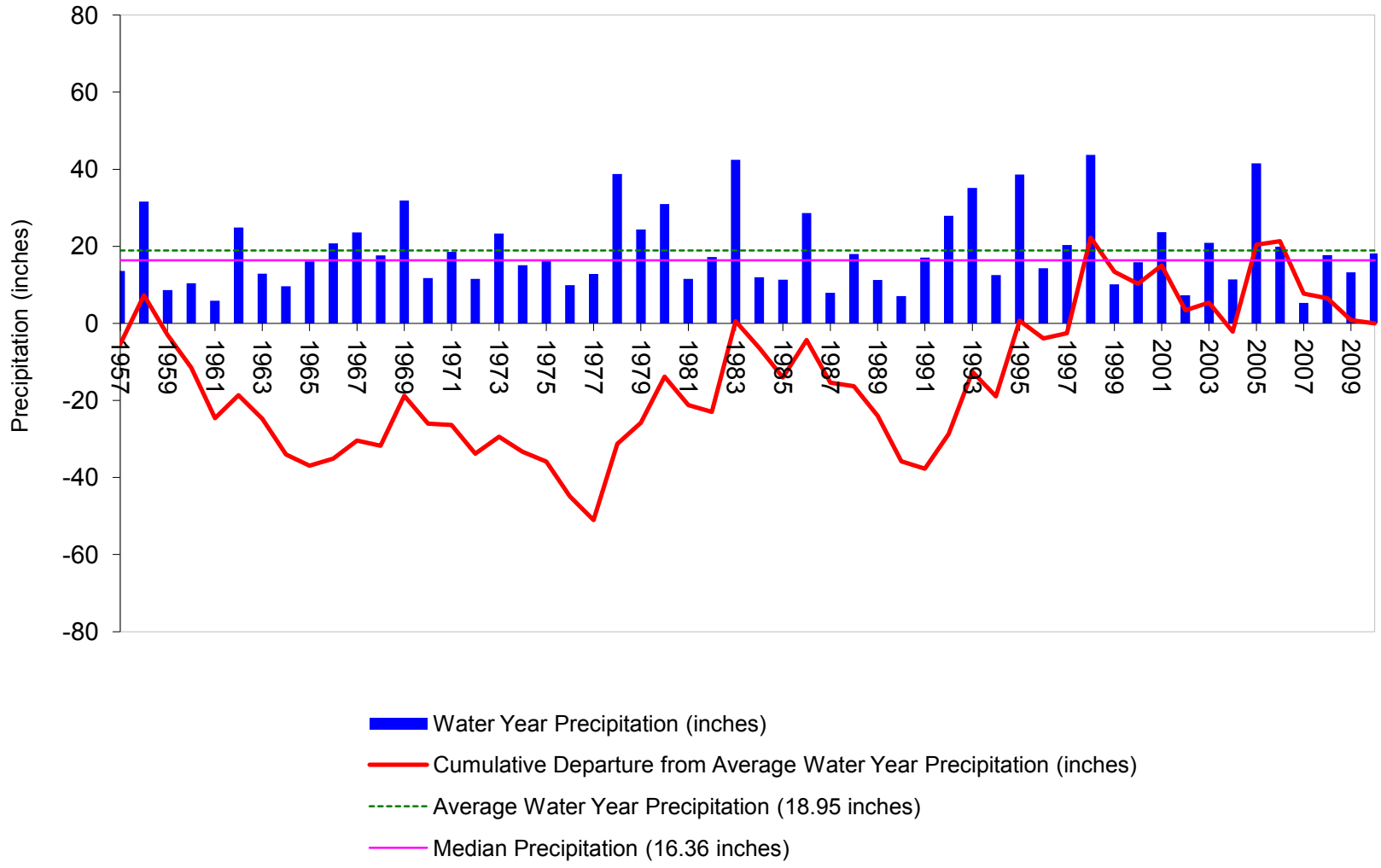


Figure 19. Fillmore Basin Historical Annual Precipitation

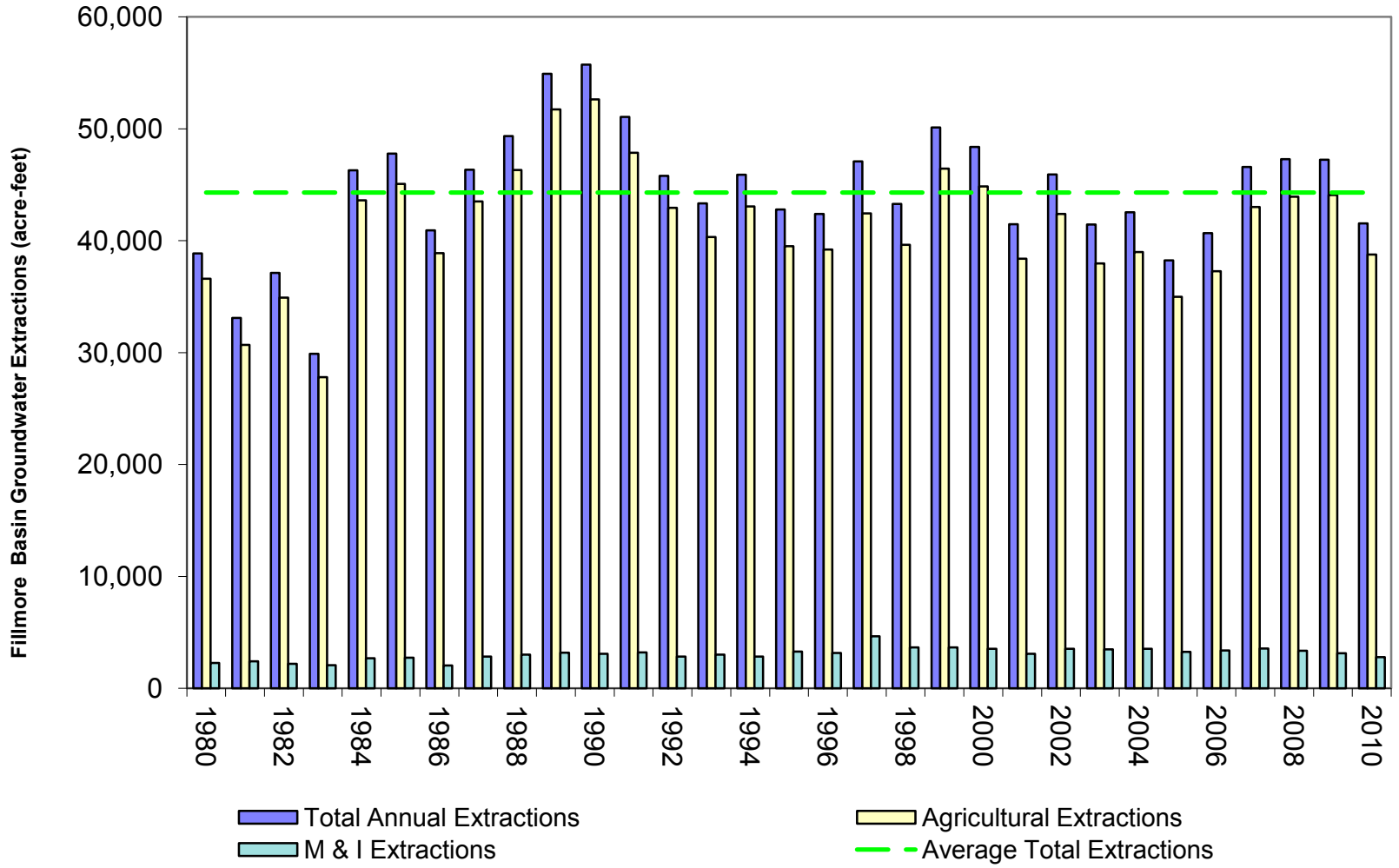


Figure 20. Graph of Fillmore Basin Historical Annual Groundwater Extractions

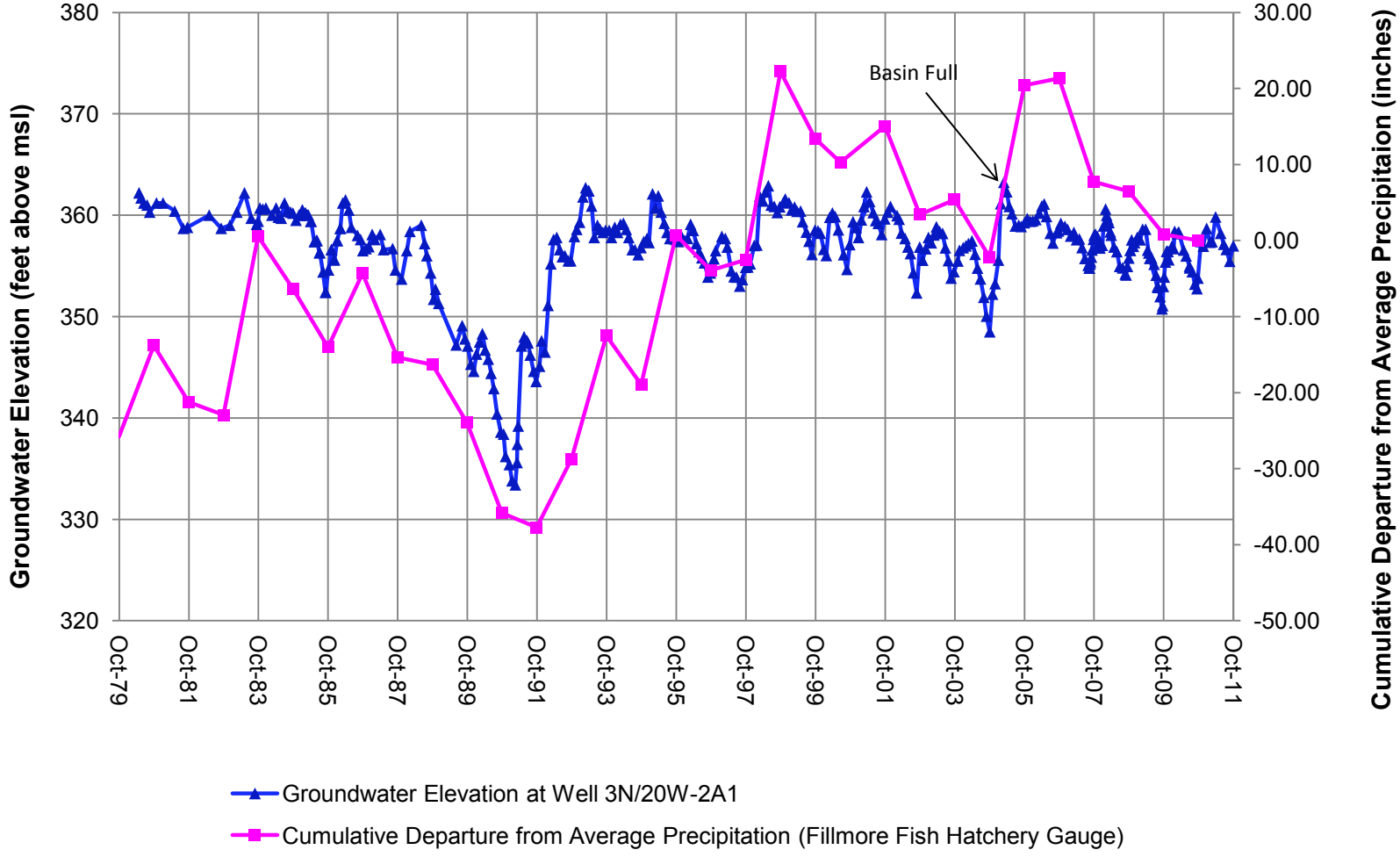


Figure 21. Fillmore Basin Groundwater Elevation Hydrograph and Cumulative Departure from Average Precipitation

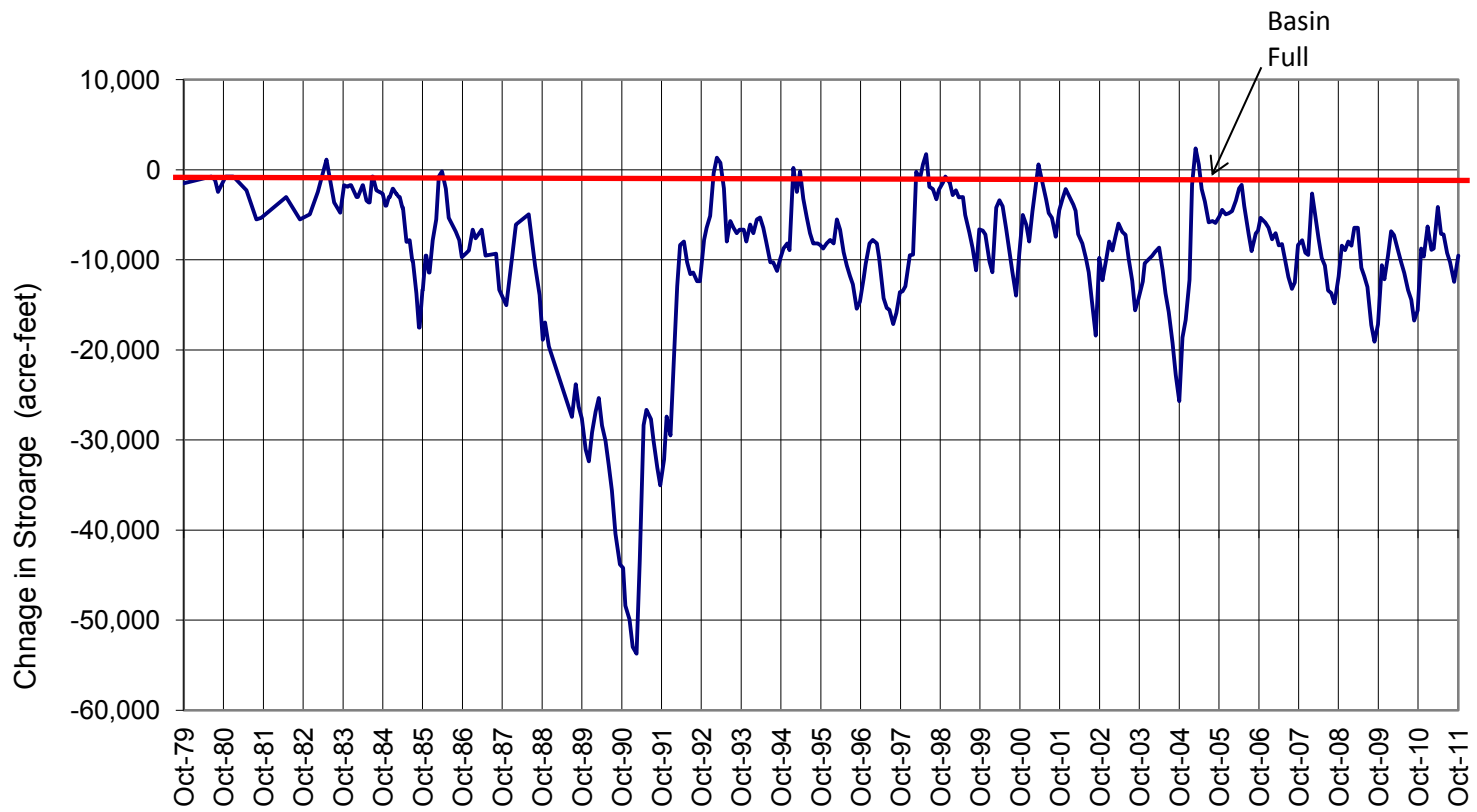


Figure 22. Fillmore Basin Change in Groundwater Storage

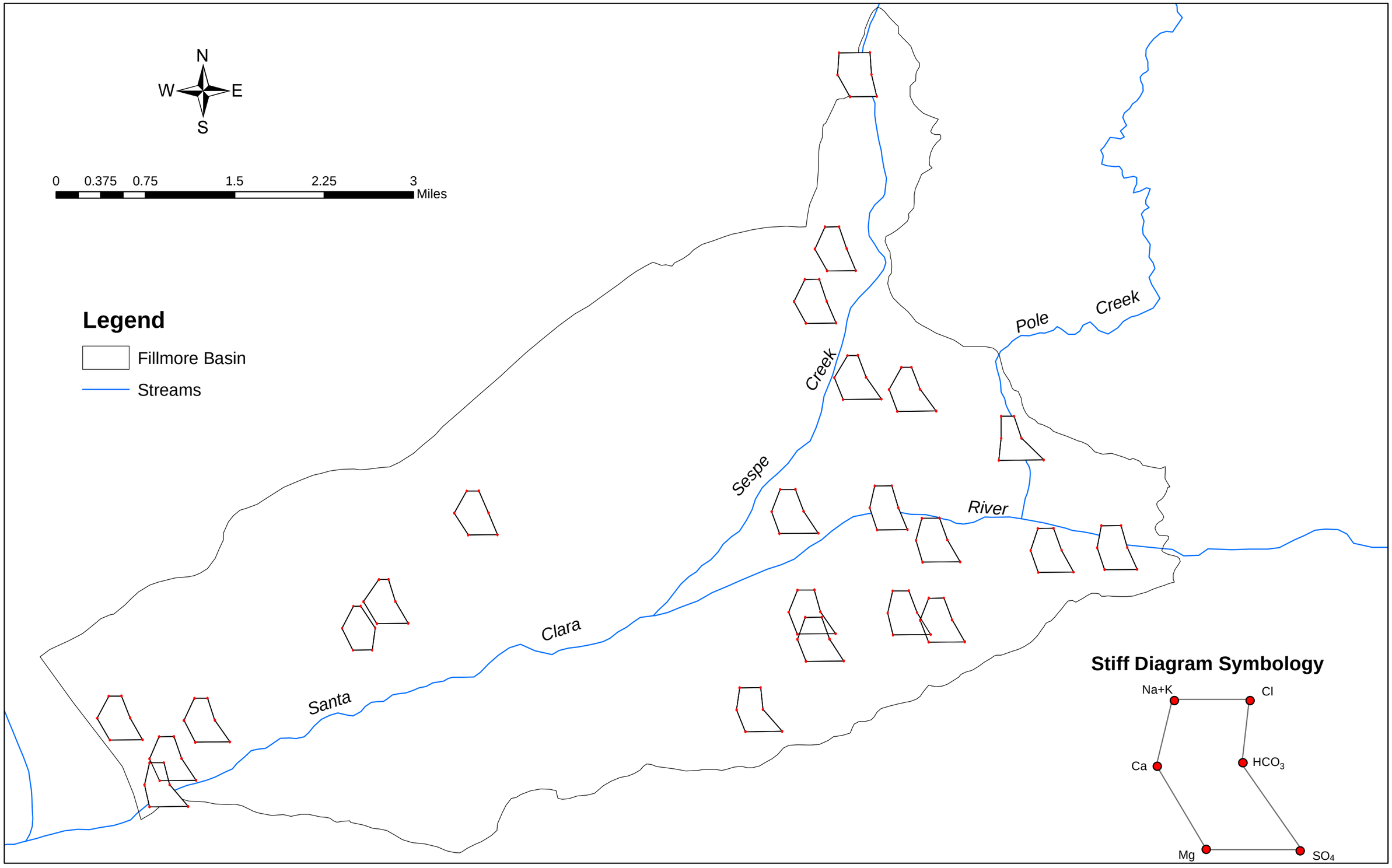
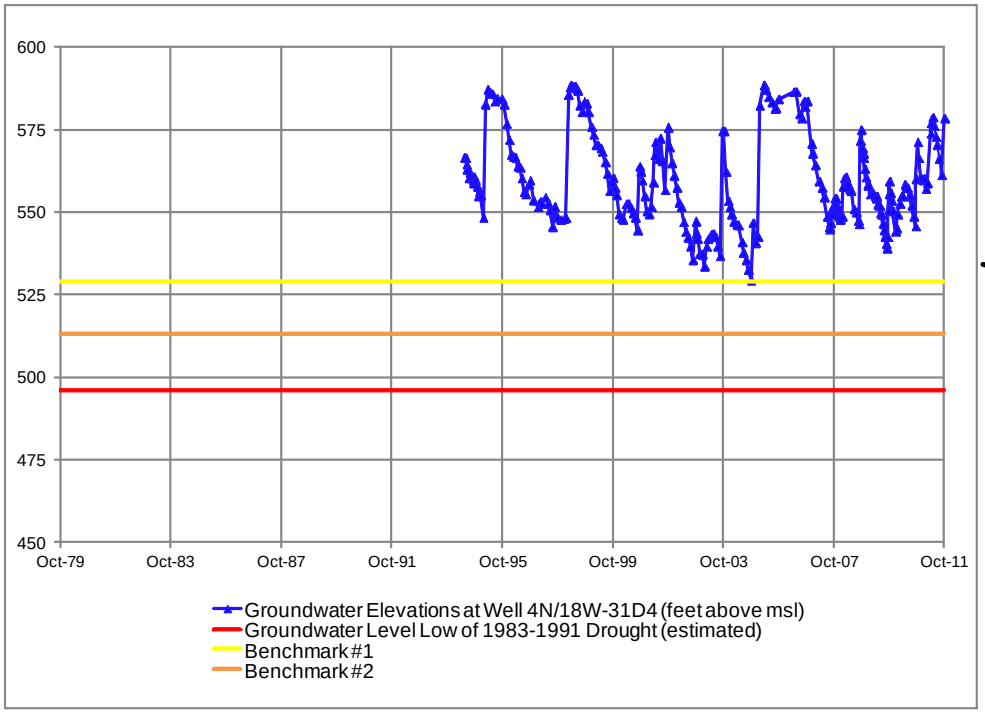
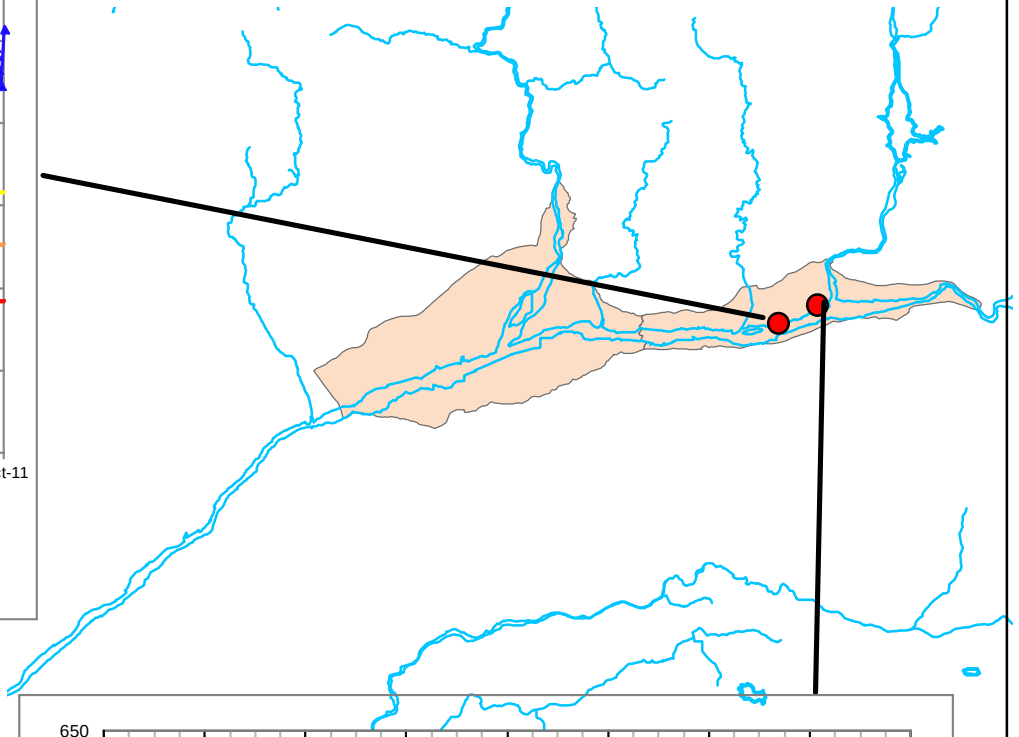


Figure 23. Map Showing Stiff Diagrams of 2010 Groundwater and Surface Water Quality Analyses for Fillmore Basin





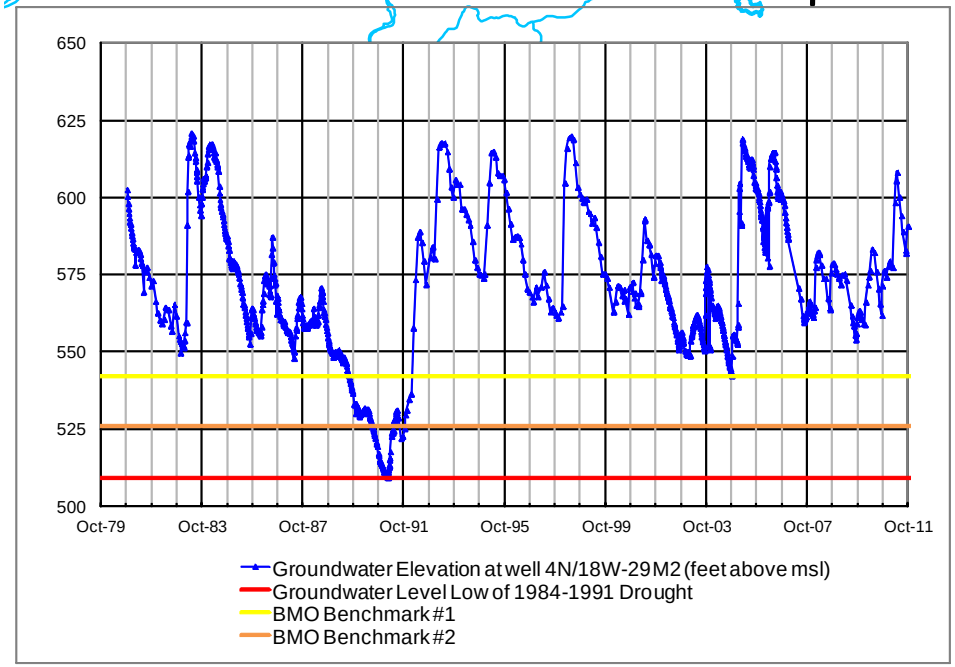


Figure 24. Piru Basin Groundwater Level BMO Indicator Wells

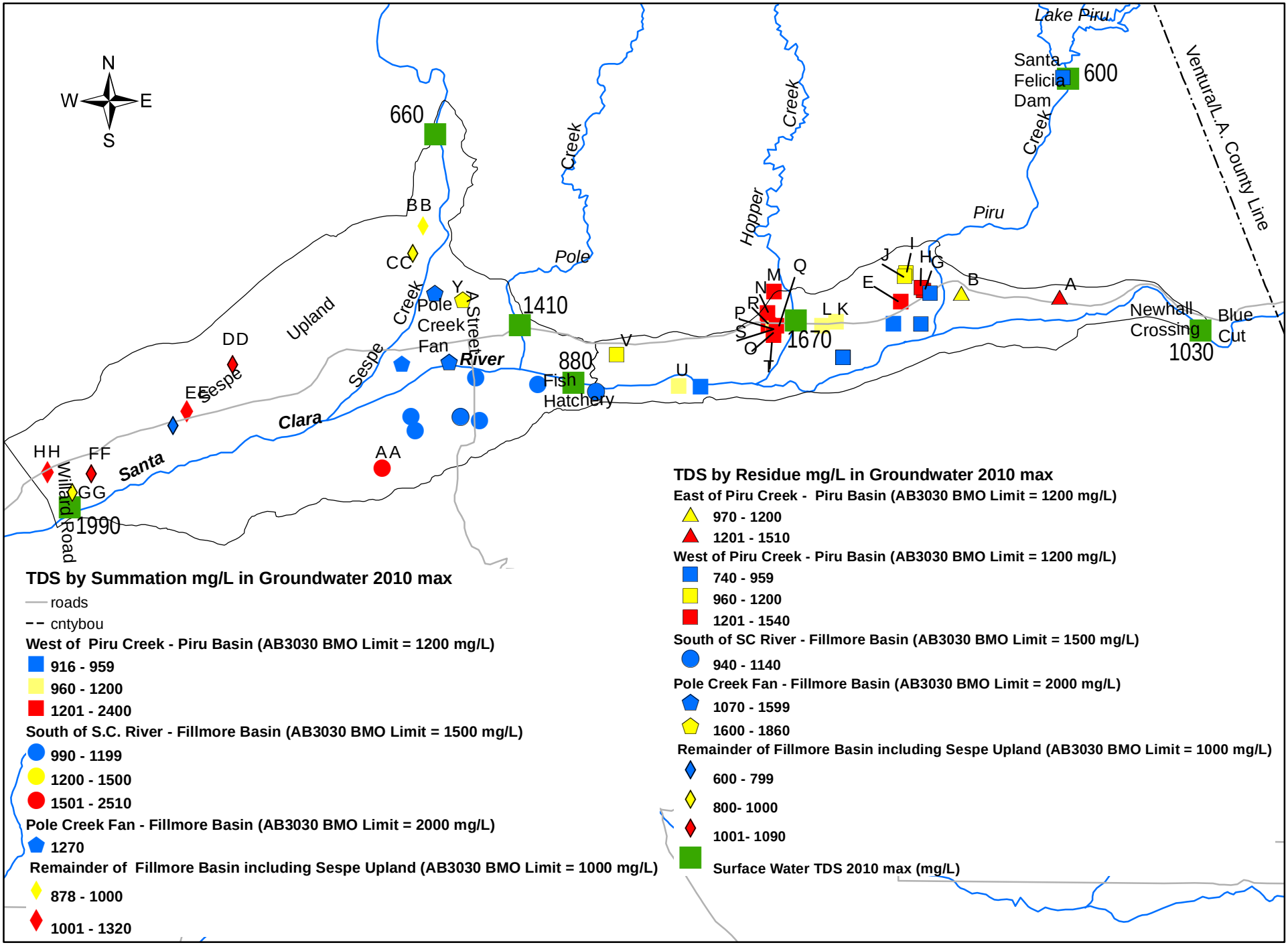


Figure 25. 2010 Maximum TDS Concentrations in Groundwater and Surface Water (mg/L)

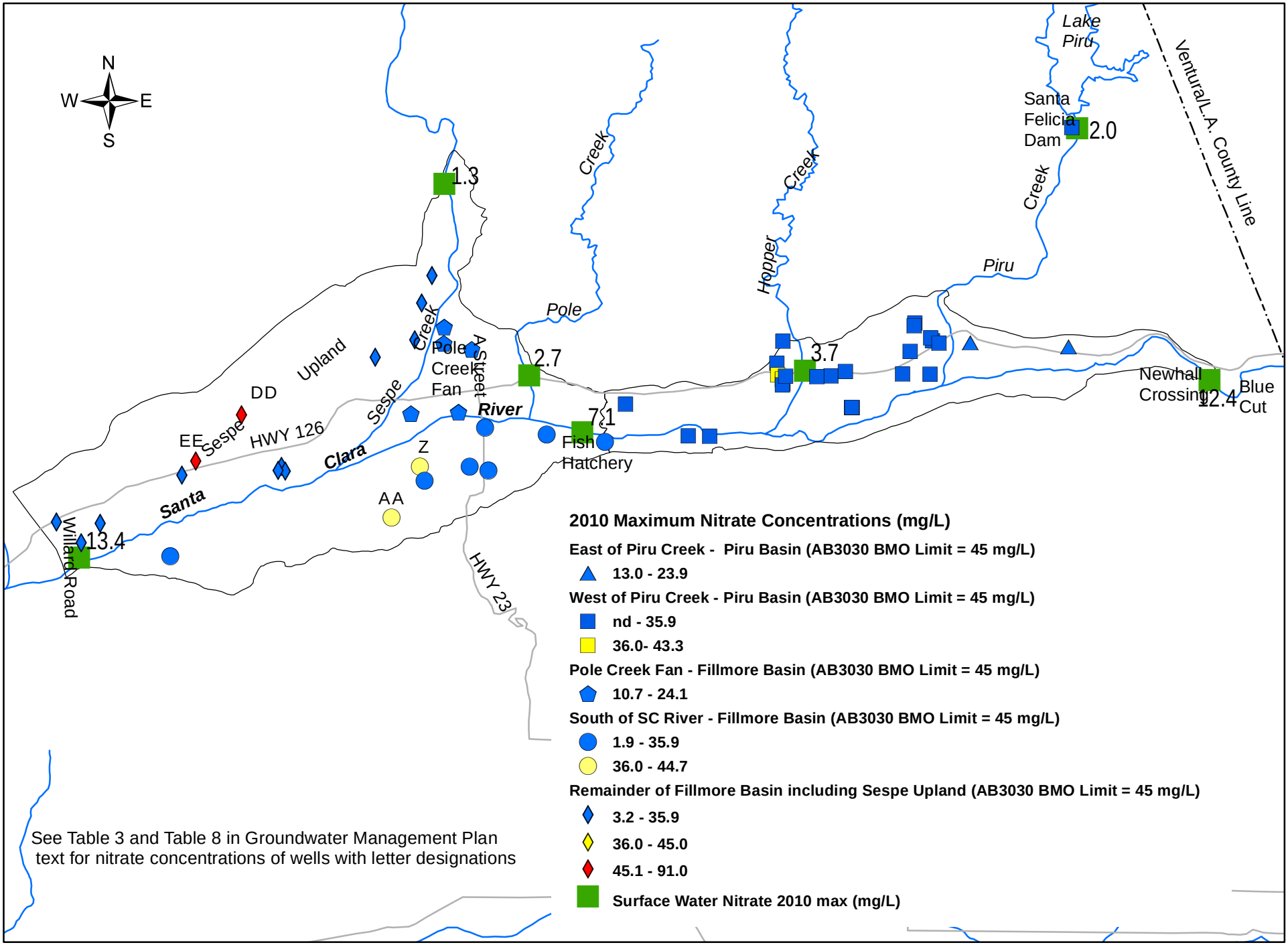
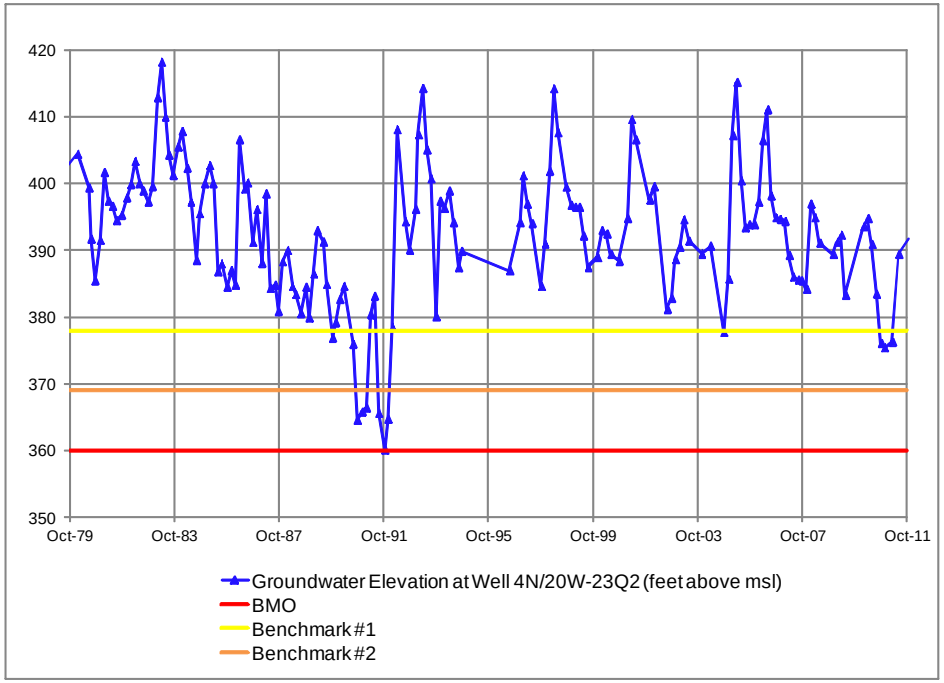
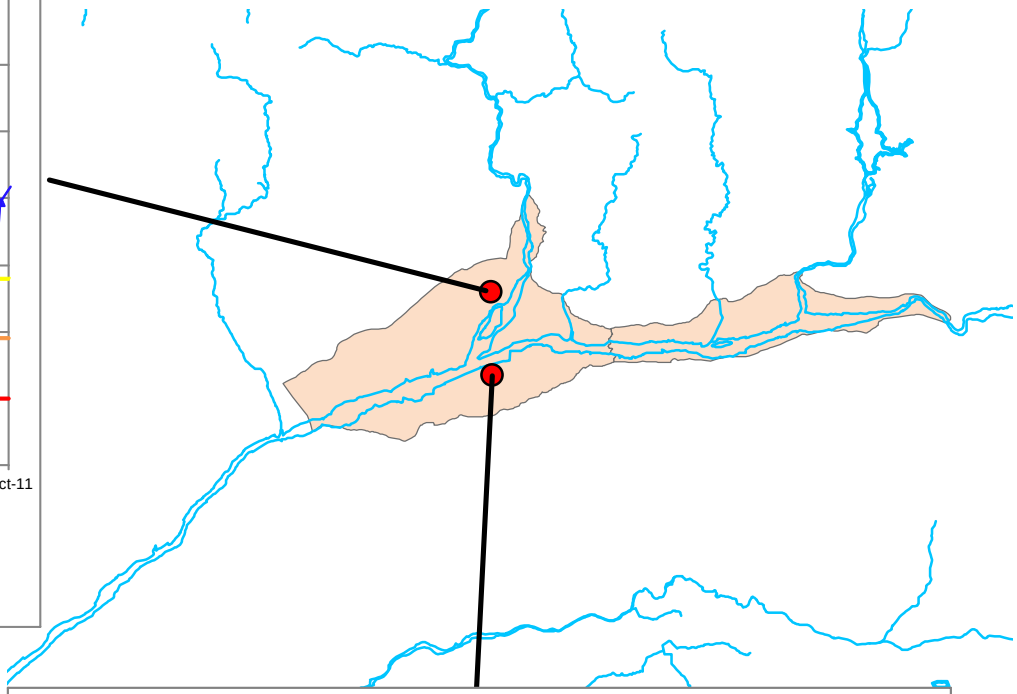


Figure 26. 2010 Maximum Nitrate Concentrations in Groundwater and Surface Water (mg/L)





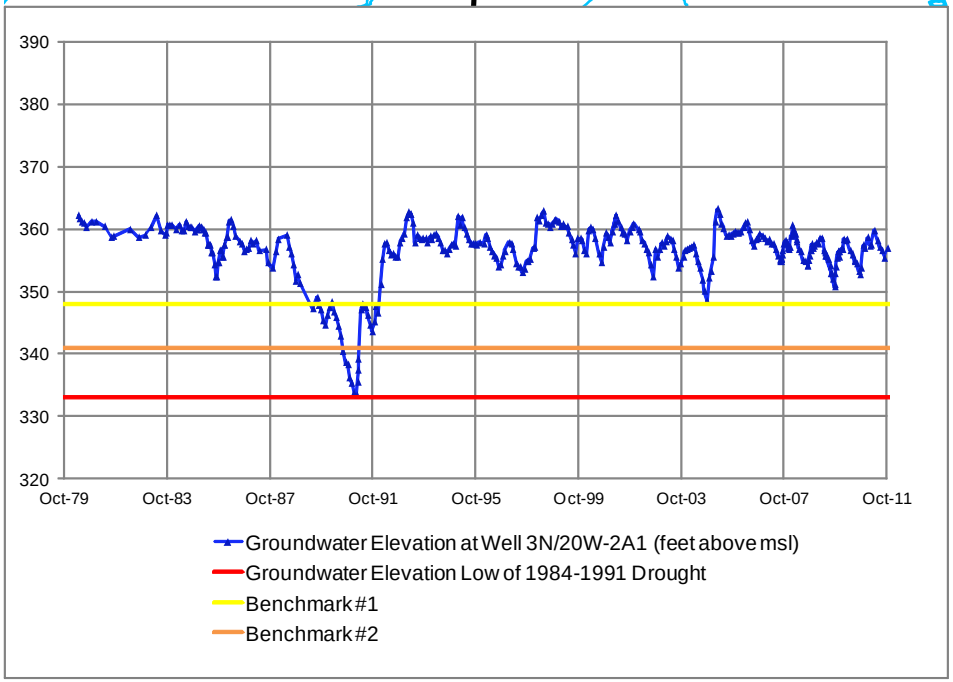


Figure 27. Fillmore Basin Groundwater Level BMO Indicator Wells

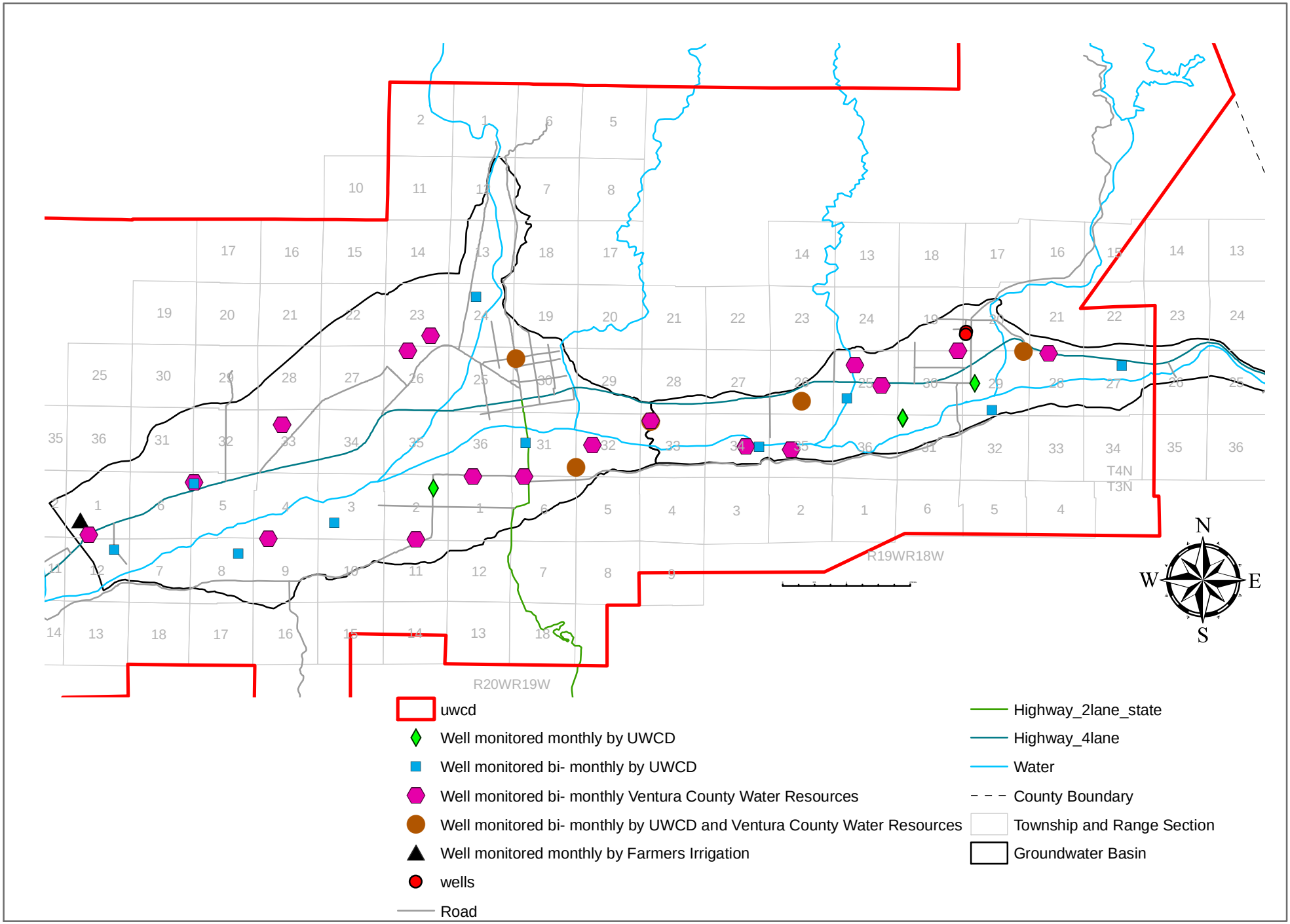


Figure 28. Wells used to Monitor Groundwater Levels in the Piru and Fillmore Basins

6 APPENDIX A - GROUNDWATER EXPORT POLICY

D R A F T – NOT FOR PUBLIC DISTRIBUTION OR CITATION

GROUNDWATER EXPORT POLICY AB 3030 GROUNDWATER MANAGEMENT PLAN PIRU/FILLMORE BASINS

In order to preserve the groundwater resources of the Piru/Fillmore basins, the AB 3030 Groundwater Management Plan (GWMP) states that:

"Any projects that pump groundwater from the basins for export outside of the basins could lead to over-pumping of the basins, and related problems. Thus, to minimize the potential of over-pumping related to groundwater exports, an export plan has been formulated that requires written application to the Council for any new groundwater pumping that will extract water for export outside of the basin. If the pumping and export of the groundwater would not create conditions that could lead to over-pumping or degraded conditions in the basins, then the approval of the application would not be unreasonably withheld. If the pumping and export of the groundwater would reasonably create conditions that could lead to over-pumping in the basins, then the application would be denied."

This groundwater export policy lays out the guidelines for determining what constitutes a groundwater export from the basin, what general conditions could lead to overpumping of the basins, what will be included in a written application for export, and what conditions will be included with approval of an export application. These issues are outlined and discussed in the following sections.

GROUNDWATER EXPORT FROM THE BASIN(S)

Any proponent of a project to pump and export groundwater from the Piru or Fillmore basin that exceeds 5 acre-feet/year (ac-ft/yr) to an area that lies outside the groundwater export boundary of the respective basin (Piru or Fillmore Basin) must file a written application with the AB 3030 Groundwater Management Council (GWMC). For the purpose of this export policy, any water pumped from and delivered within the same basin (i.e. pumped from the Piru basin and delivered within the Piru basin) will not be considered an export from the basin.

The groundwater export boundary for the Piru basin is shown on the map in Figure A-1. The area inside the Piru basin export boundary includes the Piru basin and all land parcels outside of the basin, located within the sphere of influence of the basin, that have any agricultural or M&I development as of the date this policy is accepted by the GWMC and UWCD. Groundwater pumped from the Piru basin and transferred outside of the export boundary, which includes transfers to the Fillmore basin, is considered an export.

The groundwater export boundary for the Fillmore basin is shown on the map in Figure A-2. The area inside the Fillmore basin export boundary includes the Fillmore basin and all land parcels outside of the basin, located within the sphere of influence of the basin, that have any agricultural or M&I development as of the date this policy is accepted by the GWMC and UWCD. Groundwater pumped from the

Fillmore basin and transferred outside of the export boundary, which includes transfers to the Piru basin, is considered an export.

Entities exporting groundwater as of the date this policy is adopted by the GWMC and UWCD are exempt from this application process until such time as their pumped quantity of groundwater exceeds their historical maximum by 5 ac-ft/yr or the GWMC determines that the export is having detrimental impact(s) on groundwater resources. Upon this determination, the exporter must submit an application for groundwater export as presented in this document.

CONDITIONS LEADING TO OVERPUMPING

Over-pumping could lead to overdraft of the basins. Overdraft occurs when over a complete hydrologic cycle more groundwater is extracted than is recharged. Several conditions could lead to overdraft of the Piru and/or Fillmore basin(s). The groundwater levels in the basins presently fluctuate with wet/dry climatic conditions, with both basins reaching maximum fill levels during wet portions of a climatic cycle. Groundwater levels in both basins also drop during dry portions of the cycle, with the Piru basin showing greater fluctuations in groundwater levels than the Fillmore basin. Over-pumping of the basins could occur if groundwater pumping for water export would prevent the basins from filling during wet cycles or would lower water levels below historic low levels during dry cycles. Similarly, groundwater pumping for export that could initiate or exacerbate a water quality problem in the basins would also be considered over-pumping of the basins. The technical evaluation of a proposed groundwater export program must be conducted by the project proponent's technical expert to predict its effect on the basin. The export application will be evaluated by UWCD on behalf of the GWMC.

APPLICATION FOR GROUNDWATER EXPORT

The project proponent must submit an application prior to the export of any groundwater. The application will include, at a minimum, the following:

- Administrative Items:
  - Contact information for the project proponent and their technical expert;
  - Project description with appropriate maps detailing project location;
  - Owner of well(s) proposed for pumping export; and
  - Proposed use for exported water including a rationale for why water from the Piru or Fillmore basins is the best available water supply option for the project.
- Technical Items:
  - State well number of groundwater wells proposed for pumping export;
  - Historical pumping quantities from the well(s);
  - Proposed quantity of groundwater to be pumped and exported;
  - Description and location of conveyance system to move the water;
  - Description, location, and owner of where water will be delivered;

- Analysis of the potential impacts (e.g., water levels, water quality) of the pumping on nearby wells and surface water bodies including the determination of the significance of those impacts;
- Proposed monitoring program (e.g., water level and water quality) to quantify project impacts; and
- Proposed mitigation measures to be employed if significant impacts are detected from the monitoring program.

It is the intent of the GWMC that the analysis of impacts be, at a minimum, sufficient to comply with California Environmental Quality Act (CEQA) guidelines for water resources.

An export application renewal must be filed every three (3) years to review compliance with proposed mitigations.

CONDITIONS INCLUDED WITH APPROVAL OF GROUNDWATER EXPORT

To ensure that an export project doesn't harm either the basin or nearby pumpers, certain conditions may be included with each export application. These conditions could include, but are not limited to, the example items listed below:

- Regular monitoring of groundwater levels and water quality in the project area;
- Submittal of an annual report to the GWMC detailing the operations of the water export activities (e.g., quantities pumped from each well, use of the exported water) and the results of the monitoring program (e.g., changes in pumping or static water levels, water quality changes, impact on nearby surface water bodies);
- Execution of a mitigation plan if nearby wells or surface water bodies or their water quality are significantly impacted; and
- Execution of a dry-year plan that would limit groundwater exports in the event of a prolonged drought.

Additional conditions may be added on a case-by-case basis.

APPLICATION PROCESS

The application will be filed with UWCD, who will take it to the GWMC for discussion and recommendation. The Council's recommendation will then be forwarded to the UWCD Board of Directors, who will take action on the application within 90 days from date of initial application filing with GWMC. Figure A-3 shows the general steps in the application review and approval process.

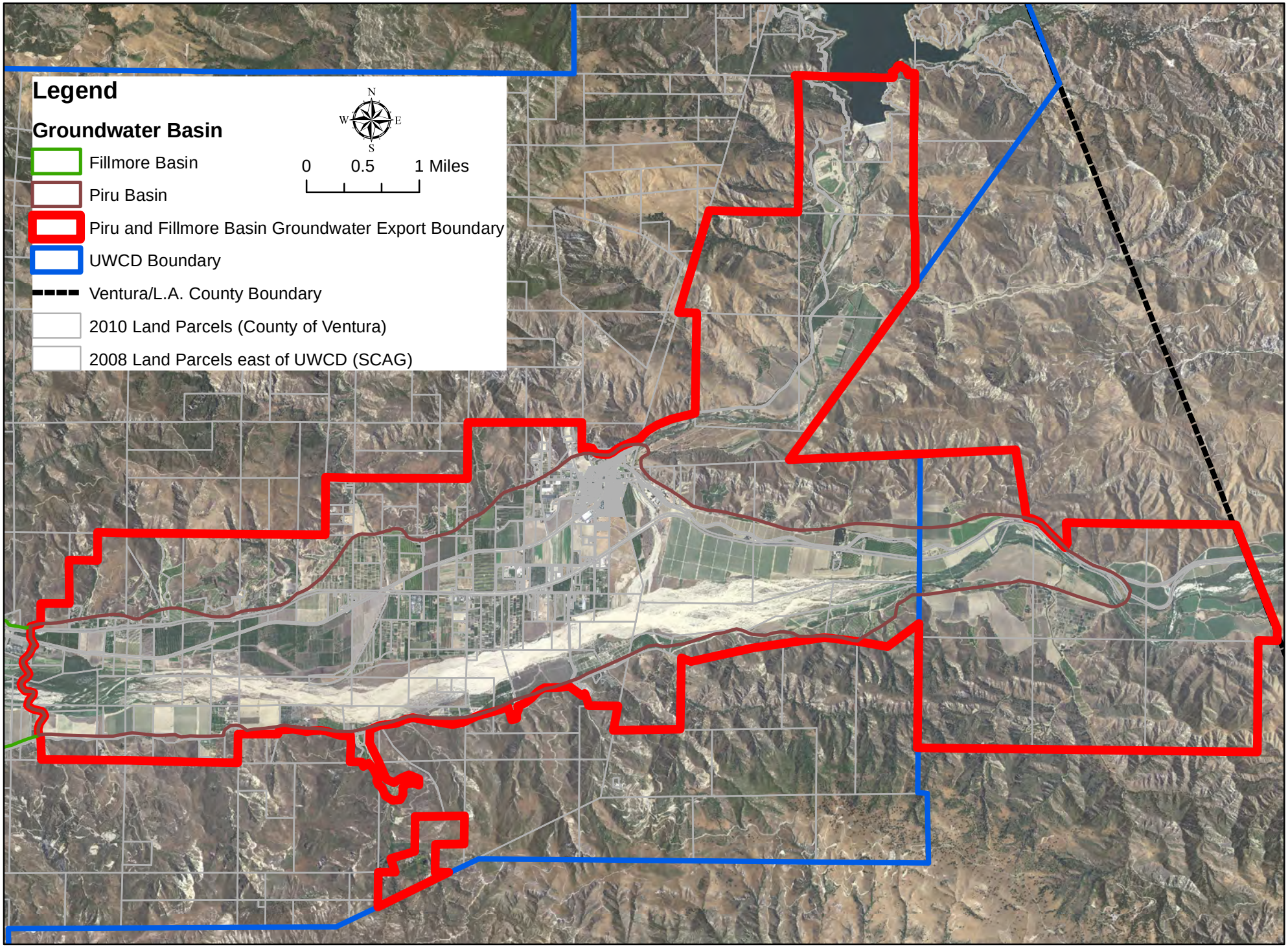


Figure A-1. Piru Basin Groundwater Export Boundary

2009 County of Ventura Aerial Photo

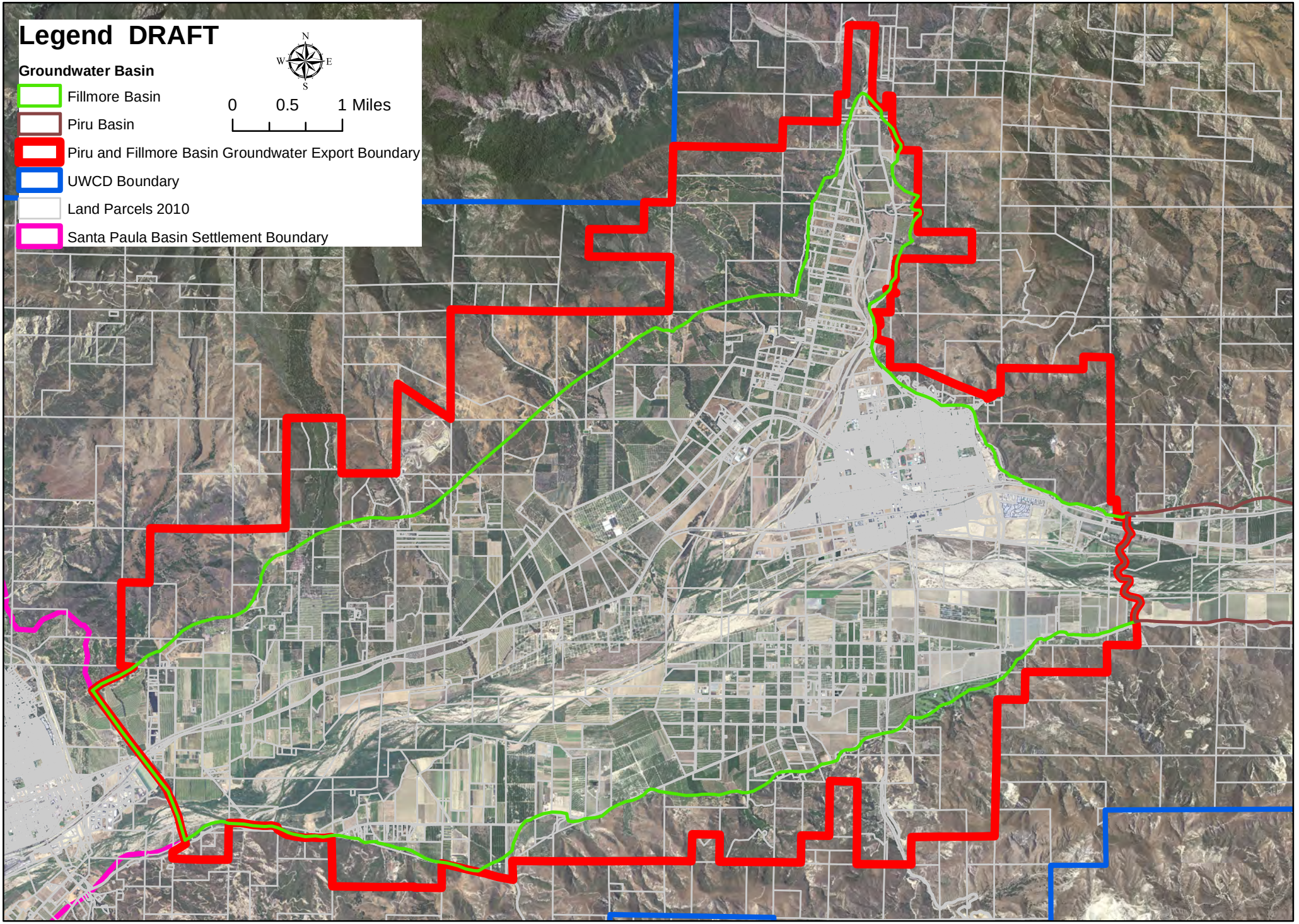
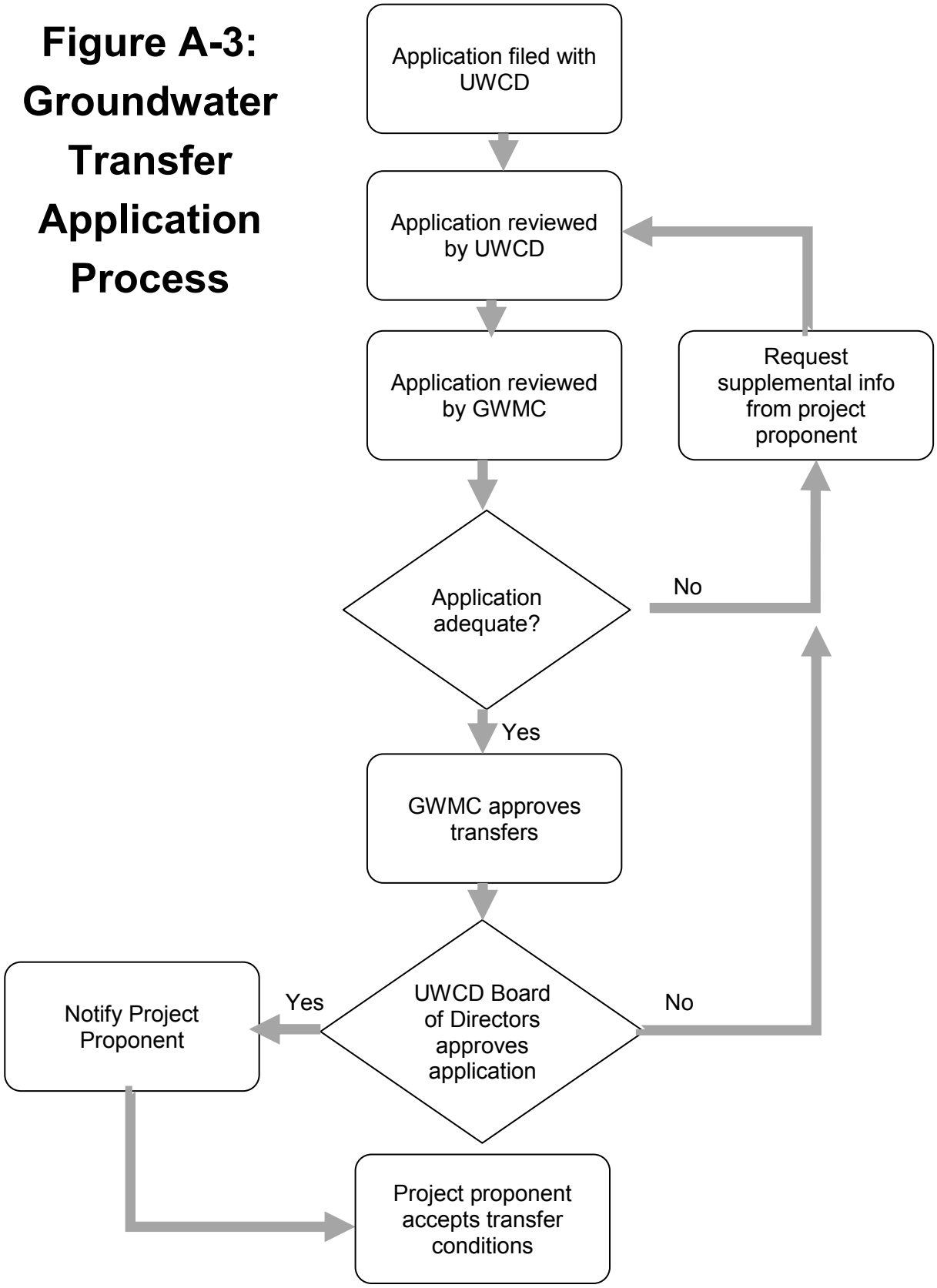


Figure A-2. Fillmore Basin Groundwater Export Boundary 2009 County of Ventura Aerial Photo

Figure A-3: Groundwater Transfer Application Process



7 APPENDIX B - MEMORANDUM OF UNDERSTANDING REGARDING GROUNDWATER BASIN MANAGEMENT IN THE FILLMORE/PIRU GROUNDWATER BASINS (1995)

Memorandum of Understanding Regarding Groundwater Basin Management in the Fillmore/Piru Groundwater Basins

1. This **Memorandum of Understanding regarding Groundwater Basin Management in the Fillmore /Piru Groundwater Basins ("MOU")** within the boundaries of the United Water Conservation District is entered into as of the ____ day of _____ 1995 at Santa Paula, California, by and between the City of Fillmore ("Fillmore"), a municipal corporation, the United Water Conservation District ("United"), a water conservation district organized under the California Water Conservation Act of 1931, and the undersigned (a) private individuals, (b) private entities, (c) mutual water companies, (d) investor-owned utilities, and (e) other water companies (collectively "Pumpers"), all of whom pump groundwater from wells in the Fillmore/Piru Groundwater Basins.

Factual Recitals

2. This MOU is entered into with reference to the following facts:

A. The Fillmore/Piru Groundwater Basins ("Basins"), covering approximately 40 square miles, are located beneath the alluvial plain of the Santa Clara River as shown in the attached Exhibit A. Within the Basins, groundwater occurs primarily in younger unconsolidated alluvial deposits or in older unconsolidated deposits of the San Pedro Formation.

B. The Basins lie wholly within the United Water Conservation District which encompasses approximately 213,000 acres, entirely within Ventura County. United's boundary includes the valley of the Santa Clara River almost to the Los Angeles County Line and essentially all of the coastal plain. United was organized in 1950 under the California Water Conservation District Law of 1931 found in Water Code sections 74000 et seq.

C. Fillmore, a local agency incorporated in 1914, lies wholly within the boundaries of United and delivers water pumped from the Fillmore Groundwater Basin. Fillmore currently serves an area of about 910 acres and provides water to approximately 3,100 water users. Fillmore currently produces approximately 2,500 acre-feet per year (AFY) from the Fillmore Basin.

D. Pumpers are among the approximately 200 separate (a) private individuals, (b) private entities, (c) mutual water companies, (d) investor-owned utilities, and (e) other water companies that own wells within the Fillmore/Piru Groundwater Basins. Such groundwater pumpers in the Fillmore/Piru Groundwater Basins produce approximately 50,000 AFY which is used predominantly for agricultural purposes.

E. Fillmore, United, and Pumpers recognize that the Basins require oversight to ensure that the quantity and quality of the basin remain sufficient for beneficial uses. In addition, these organizations recognize that a continuous, significant overdraft of these Basins may result in adverse consequences including, but not limited to, economic loses, water quality degradation, land subsidence, and increased competition for this resource.

F. Fillmore and United each has and possesses the authority to adopt and implement a groundwater management plan pursuant to the Groundwater Management Act of 1993 (AB3030; Water Code, section 10750 et seq.)

G. Fillmore, United, and Pumpers all recognize it is the desire of the State Legislature to encourage local agencies to work cooperatively to manage groundwater resources within their jurisdictions. These organizations desire to create an MOU to provide for the joint development, implementation and administration of a coordinated groundwater basin management plan within the boundaries of the Basins and for their mutual benefit pursuant to the Groundwater Management Act.

H. Fillmore and Pumpers request that United develop a groundwater basin management plan with them for the Basins.

Agreement

3. The parties to this MOU hereby agree as follows:

4. Purpose: The purpose of this MOU is to provide for the development, implementation and administration of a Fillmore/Piru Basin Groundwater Management Plan ("Plan") within the boundaries of the Basins pursuant to the Groundwater Management Act.

5. Authority: United shall, on behalf of the parties to this MOU, coordinate the development, adoption, implementation and administration, in cooperation with Fillmore and Pumpers, of the Plan pursuant to the Groundwater Management Act of 1993, within the portions of the Basins that lie within United's boundaries. Fillmore, United, and Pumpers shall form a Fillmore\Piru Basin Groundwater Planning Council ("Council"), consisting of two City Council representatives from Fillmore, four Pumpers (of which two shall be private pumpers or corporate officers or directors of private pumpers, and two shall be officers or directors of mutual water companies, investor-owned utilities or other water companies), and one elected Board member from United who represents the district overlying the Basins, for the purpose of drafting and managing the Plan.

6. Coordination of the Adoption of the Plan: United, acting on behalf of and together with the parties signatory to this MOU, is authorized to coordinate the development of the Plan by noticing a hearing to consider preparation of the Plan,

adopting a Resolution of Intent to draft the Plan, publishing the Resolution of Intent, coordinating the preparation of the Plan, conducting hearings to consider adoption of the Plan, responding to any official protests, and adopting the final Plan.

7. Preparation of the Plan: The Council shall prepare a draft Plan containing components from among those listed in section 10753.7 of the California Water Code. The Council members shall be responsible for ensuring their individual constituencies are fully informed of the contents of the proposed Plan.

8. Adoption of the Plan: Upon completion of the draft Plan by the Council, the Council shall submit the Plan to United for adoption in accordance with California Water Code paragraphs 10753 et seq. United shall return the Plan to the Council for modification if testimony during the public hearing process indicates additional modifications are required before the Plan's adoption. United shall only adopt a Plan for the Basins which has been approved by at least four of the Council members.

9. Modification of the Adopted Plan: After the Plan has been adopted by United, modifications to the Plan may be proposed by any member of the Council. Modifications approved by at least four of the Council members shall be submitted to United for adoption using the following procedures.

A. United shall hold a hearing to consider adoption of the modifications submitted by the Council. Notice of the hearing shall be given pursuant to Section 6066 of the Government Code. The notice shall include a summary of the Plan and shall state that copies of the modifications may be obtained for the cost of reproduction at the offices of United.

B. If testimony provided during the hearing process indicates that adoption of the modifications is not warranted, then United shall not adopt the modifications and shall return the proposed modifications to the Council for further review.

C. If testimony provided during the hearing process demonstrates to the satisfaction of the United Board that the proposed modifications should be approved, United may adopt the modifications within 35 days of the conclusion of the hearing.

D. United shall not adopt modifications to the Plan proposed by the Council unless those modifications have been approved by at least four members of the Council.

10. Implementation of the Adopted Plan: In collaboration with and approval by the Council, United shall adopt rules and regulations to implement and enforce the Plan. Nothing in this MOU or in the final Plan, however, shall be construed as authorizing any party to make a binding determination of the water rights of any person or entity. In adopting rules and regulations pursuant to this MOU, United shall consider the potential impact of those rules and regulations on business activities, including agricultural

operations, and to the extent practicable and consistent with the protection of the groundwater resources, minimize any adverse impacts on those business activities.

11. Plan Administration: United shall, within the financial limitations of Section 13 below, assist the Council in administering the adopted Plan. Such administration shall include assisting with the planning of meetings, preparing meeting documents, mailing notices and newsletters, monitoring key wells in the Basins, analyzing trends in water quantity and quality, and preparing an annual report of groundwater conditions in the Basins. United will also assist in preparing any modifications to the adopted Plan.

12. Plan Management: The members of the Council shall meet as often as they consider necessary in order to complete the Plan in a timely manner. The Council shall then meet at least annually to coordinate the groundwater management program and consider any changes to the Plan recommended by any member of the Council.

13. Finances: The Plan shall be developed and adopted through the in-kind efforts of the parties to this MOU. Following adoption of the Plan, United's costs for long-term administration of the Plan shall be financed through District-wide groundwater extraction fees of United. To the extent that such long-term administration exceeds activities that are already performed by United for other basins within the District, the costs for such administration shall be financed through District-wide groundwater extraction fees up to a total of $10,000 per year. Activities that are performed by United in other basins within the District include, but are not limited to, maintaining monitoring wells, periodic measurement of groundwater levels, sampling for both surface water and groundwater quality, compilation and analyses of monitoring results, collecting groundwater pumping information related to the District's groundwater extraction fees, and coordinating studies with other public agencies. Activities that United will perform in administering the Plan that exceed those performed in others basins include, but are not limited to, assisting with the planning of Council meetings, preparing Council meeting documents, preparing and mailing newsletters, and preparing an annual report to the Council of groundwater conditions in the Basins.

If in the future, such administrative costs in excess of normal District activities are greater than $10,000 per year, or if specific projects are undertaken to implement the Plan, including but not limited to the acquisition of replenishment water, construction of capital facilities or the mitigation of groundwater contamination necessary to implement the coordinated groundwater management plan, or if litigation results from implementation of the coordinated plan, the costs of such administration, projects, or litigation shall be financed through an annual fee or assessment as authorized in sections 10754 and 10754.2 of the California Water Code. Before United may levy a water management assessment under these referenced sections of the California Water Code to fund a specific project undertaken to implement the Plan or to pay for ongoing litigation or otherwise fix and collect fees on behalf of the signatories to this MOU, United, with prior approval by Council, shall hold an election on the proposition of whether the district shall be authorized to levy a groundwater management assessment or fee as required by section

10754.3 of the California Water Code. If the Council does not approve holding an election or if the election fails to approve a groundwater management assessment or fee to finance ongoing litigation related to implementation of the Plan, United may, at its option, establish a special zone or zones as appropriate under California Water Code sections 74000 et seq. and establish a groundwater extraction charge within such zone or zones to pay for the costs of said litigation. However, nothing contained in the MOU to the contrary shall in any way restrict United from exercising its statutory authority as a Water Conservation District under California Water Code sections 74000 et seq., including the establishment of zones and establishing groundwater extraction charges within such zones in furtherance of District activities in the production and augmentation of the water supplies for users within the District or such zones.

14. Counterpart Execution: This MOU may be executed by any party in one or more counterparts, all of which, taken collectively, shall be considered one and the same document.

IN WITNESS WHEREOF, the parties have executed this MOU as of the day and year first written above.

Date: 10-11-95

United Water Conservation District

By: _____
President

Attest: _____
Secretary

Date: 9-26-95

City of Fillmore

By: Linda Brewster
Mayor

Attest: Doreen Withers
City Clerk

IN WITNESS WHEREOF, the parties have executed this MOU as of the day and year first written above.

Date: 9/26/95	Clark L. Johnson (Print Name)	Clark R Johnson (Sign)	A.R. & J. Ranches (Representing)
Date: 9/26/95	John L. Scamehorn (Print Name)	(Sign)	(Representing)
Date: 9/26-95	Rowe Burgett (Print Name)	Rowe Burgett (Sign)	WALL RANCH (Representing)
Date: 9/26/95	Lawrence T. Lindgren (Print Name)	(Sign)	Hard Scrabble Mutual Water Co. (Representing)
Date: 9-26-95	Paul Barnard (Print Name)	(Sign)	Hard Scrabble Mutual Water Co. (Representing)
Date: 9-26-95	Elton Wagner (Print Name)	Elton Wagner (Sign)	ORELLA RANCH (Representing)
Date: 9-26-95	Gordon E. Kimball (Print Name)	Gordon E. Kimball (Sign)	KIMBALL RANCHES - EL HOGAR (Representing)
Date: 9-26-95	F.W. Richardson (Print Name)	F.W. Richardson (Sign)	GOODENOUGH MUTUAL (Representing)

IN WITNESS WHEREOF, the parties have executed this MOU as of the day and year first written above.

Date: September 26, 1995 PAUL M. HAASE (Print Name) Paul M. Haase (Sign) Southside Improvement Co. (Representing)

Date: September 26, 1995 PAUL M. HAASE (Print Name) Paul M. Haase (Sign) HAASE Co., INC. (Representing)

Date: 9-26-95 DON Schram (Print Name) DR Schram (Sign) Schram Ranch (Representing)

Date: 9-26-95 Gary L. Ball (Print Name) Gary L. Ball (Sign) San Cayetano Mutual Water Co. (Representing)

Date: 9-26-95 Gary L. Ball (Print Name) Gary L. Ball (Sign) Ancel Inc. (Representing)

Date: 9-26-95 F.W. RICHARDSON (Print Name) F.W. Richardson (Sign) EL RANCHO MARINA I + III (Representing)

Date: 9-26-95 F.W. RICHARDSON (Print Name) F.W. Richardson (Sign) EL RANCHO SOMBROSO III (Representing)

Date: 9-26-95 F.W. RICHARDSON (Print Name) F.W. Richardson (Sign) EL RANCHO DE SUENO HERMOSO I "BAKER WELL" (Representing)

IN WITNESS WHEREOF, the parties have executed this MOU as of the day and year first written above.

Date: 9/26/95	Edwin T. McFadden III (Print Name)	Edwin T. McFadden III (Sign)	McFadden Ranch #1 (Representing)
Date: 9/26/95	Edwin T. McFadden III (Print Name)	Edwin T. McFadden III (Sign)	Santa Teresita Ranch Co. (Representing)
Date: 9/26/95	Edwin T. McFadden III (Print Name)	Edwin T. McFadden III (Sign)	KILE RANCH (Representing)
Date: 9/26/95	GARY G. PACE (Print Name)	Gary G. Pace (Sign)	Warring Water Service, Inc. (Representing)
Date: 9/26/95	George W. Dabney III (Print Name)	(Sign)	Dabney Properties (Representing) Rock Daisy Ranch
Date: 9/26/95	George W. Dabney III (Print Name)	(Sign)	Dabney Properties (Representing) Old Hat Ranch
Date: 9/26/95	George W. Dabney (Print Name)	(Sign)	Dabney Properties (Representing) 1/2 River Ranch
Date:	(Print Name)	(Sign)	(Representing)

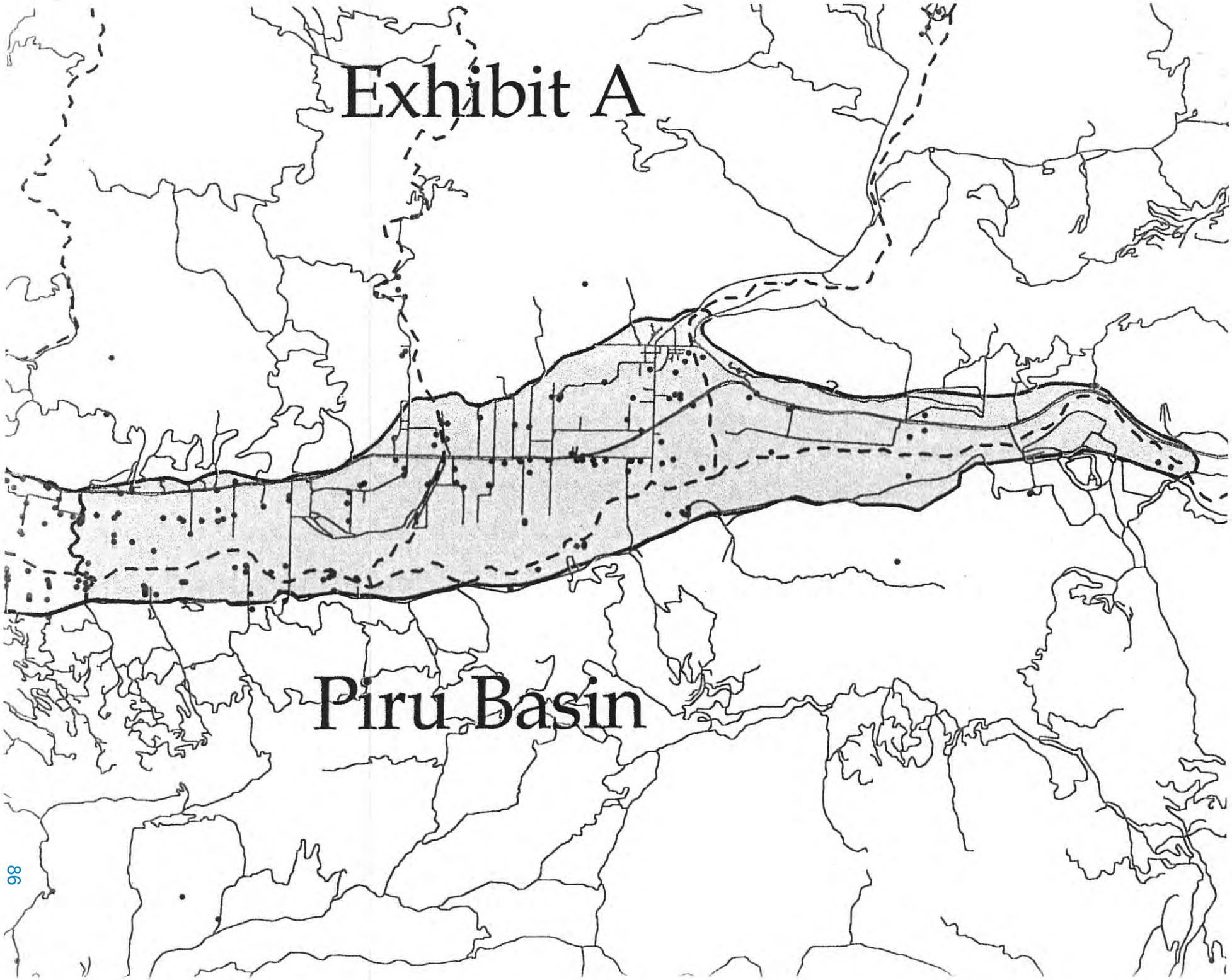
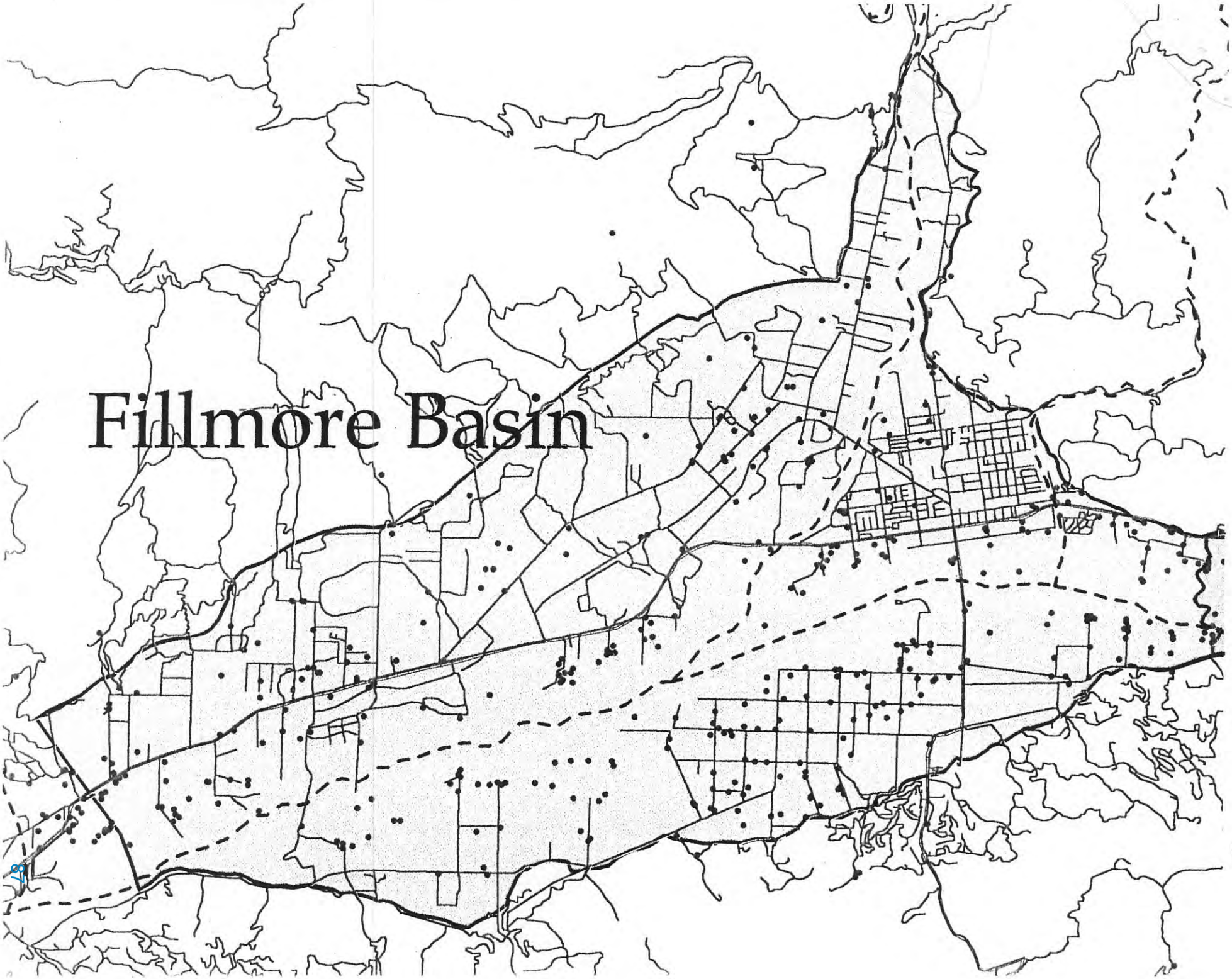


Exhibit A
Piru Basin


Fillmore Basin

8 APPENDIX C - UWCD BOARD RESOLUTION 96-8

RESOLUTION 96-8

A RESOLUTION OF THE BOARD OF DIRECTORS
OF UNITED WATER CONSERVATION DISTRICT
MAKING FINDINGS AND DETERMINATIONS AND APPROVING
FOR ADOPTION THE GROUNDWATER MANAGEMENT PLAN
FOR THE PIRU/FILLMORE GROUNDWATER BASINS

RECITALS:

WHEREAS, section 10750 of the Water Code of the State of California contains a legislative finding and declaration that groundwater is a valuable natural resource that should be managed to insure its safe production and quality, and that local agencies should work cooperatively to manage groundwater resources within their jurisdiction, and

WHEREAS, section 10753 of the Water Code of the State of California authorizes a local agency to adopt a groundwater management plan pursuant to Water Code sections 10750 et seq. for basins or portions of basins within the jurisdiction of the agency that are not already subject to a groundwater management plan, and

WHEREAS, the Piru Groundwater Basin is located within the boundaries of United Water Conservation District, along the Santa Clara River Valley, the eastern boundary 1.7 stream miles below the Blue Cut gauging station, the westerly boundary approximately one mile upstream of the City of Fillmore at the topographic narrows of the Fillmore Fish Hatchery, covering an area of approximately 7,025 acres and,

WHEREAS, the Fillmore Groundwater Basin is located within the boundaries of United Water Conservation District ("United"), contiguous to and west of the Piru Basin in the Santa Clara River Valley, the eastern boundary at the topographical narrows at the Fillmore Fish Hatchery and the westerly boundary extending approximately to Willard Road, consisting of approximately 18,580 acres and,

WHEREAS, United has the authority, under section 10753 of the Water Code of the State of California, to adopt a groundwater management plan for the Piru and Fillmore Groundwater Basins and,

WHEREAS, the City of Fillmore, California also has the authority, under section 10753 of the Water Code of the State of California, to adopt a groundwater management plan for portions of the Fillmore Groundwater Basin and,

WHEREAS, on November 9, 1994, United Water Conservation District, pursuant to section 10753.2 of the Water Code of the State of California, after holding a hearing, adopted a resolution of intention to draft a groundwater management plan and,

WHEREAS, United, the City of Fillmore and the Fillmore/Piru Groundwater Pumpers

Association formed the Piru/Fillmore Groundwater Planning Council to give notices, hold meetings and consider input from all interested and affected parties concerning the proposed adoption of groundwater management plans for the Piru and Fillmore Groundwater Basins and,

WHEREAS, United Water Conservation District, the City of Fillmore and the Fillmore/Piru Groundwater Pumpers Association, following meetings conducted during 1995, adopted, pursuant to Water Code section 10755.2 and after a duly noticed public hearing, a Memorandum of Understanding, on September 26, 1995, which conferred upon United the authority to adopt a groundwater management plan for the Piru Groundwater Basin and the Fillmore Groundwater Basin under the provisions of Water Code sections 10750 et seq. and,

WHEREAS, the adoption of a Groundwater Management Plan pursuant to Water Code sections 10750, et seq. is not a project within the purview of the California Environmental Quality Act ("CEQA"), and,

WHEREAS, even if the adoption of a Groundwater Management Plan was a project within the meaning of the California Environmental Quality Act, it would, under the circumstances of this plan, be categorically exempt from CEQA pursuant to the California Code of Regulations section 757, Class 7 and Class 8 exemptions, and

WHEREAS, after public meetings conducted in 1995 and 1996, the Piru/Fillmore Groundwater Planning Council held a public meeting on May 15, 1996 to receive comments on a draft of the Groundwater Management Plan for the Piru and Fillmore Groundwater Basins and, following the hearing and those comments, prepared and submitted a draft Groundwater Management Plan for the Piru/Fillmore Groundwater Basins to the Board of Directors of United Water Conservation District, coming before the Board on July 10, 1996 and, after conducting said hearing in accordance with the provisions of Water Code section 10753.5, the Board considered the adoption of a Groundwater Management Plan for the Piru/Fillmore Groundwater Basins.

NOW, THEREFORE, BE IT RESOLVED based on the testimony and evidence presented at said hearings that the Board of Directors of United Water Conservation District finds and resolves as follows:

1. Evidence at the hearings establishes that the Piru Groundwater Basin is considered a part of the Ventura Central Basin, which is subject to critical conditions of overdraft as stated in California Department of Water Resources Bulletin 118-80.

2. Evidence at the hearings establishes that the Fillmore Groundwater Basin is considered a part of the Ventura Central Basin, which is subject to critical conditions of overdraft as stated in California Department of Water Resources Bulletin 118-80.

3. Notices have been duly given and published regarding the drafting and adoption of the Groundwater Management Plan for the Piru/Fillmore Groundwater Basins pursuant to the provisions of Water Code sections 10750 et seq.

4. Hearings have been duly held regarding the drafting and adoption of the Groundwater Management Plan for the Piru/Fillmore Groundwater Basins pursuant to the provisions of Water Code sections 10750 et seq.

5. Landowners with the boundaries of the Piru/Fillmore Groundwater Basins have been given the opportunity to protest and to file written protests to the adoption of the Groundwater Management Plan for the Piru/Fillmore Groundwater Basins.

6. Protests to the Groundwater Management Plan for the Piru/Fillmore Groundwater Basins have been duly reviewed and fully considered.

7. The Groundwater Management Plan for the Piru/Fillmore Groundwater Basins has been presented to this Board in full compliance with all statutory requirements and can be adopted by resolution of the Board subject to the requirements of Water Code sections 10753.5 and 10753.6.

BE IT FURTHER RESOLVED that a majority protest by landowners within the boundaries of the Piru Groundwater Basin has not been filed with United Water Conservation District and a protest does not, pursuant to Water Code 10753.6, prevent this Board from adopting the plan that has been submitted to it.

BE IT FURTHER RESOLVED that a majority protest by landowners within the boundaries of the Fillmore Groundwater Basin has not been filed with United Water Conservation District and a protest does not, pursuant to Water Code 10753.6, prevent this Board from adopting the plan that has been submitted to it.

BE IT FURTHER RESOLVED that the Groundwater Management Plan for the Piru/Fillmore Groundwater Basins, in the form attached hereto and marked Exhibit "A", is approved for adoption.

BE IT FURTHER RESOLVED that in accordance with the provisions of Water Code section 10753.6(c)(3) this Board hereby adopts the Groundwater Management Plan for the Piru/Fillmore Groundwater Basins in the form attached hereto and marked Exhibit "A", which plan is incorporated into and made a part of this resolution.

We, the undersigned, being the duly qualified and acting President and Secretary, respectively, of the Board of Directors of United Water Conservation District do hereby certify that the above foregoing Resolution was duly and regularly adopted and passed by resolution of the Board of Directors of said Water Conservation District at a meeting thereof held on the 10th day of July, 1996 by the following vote:

In favor thereof, Directors: Berger, Laubacher, Maulhardt, Naumann, Terry, Richardson & Pinkerton

Abstain, Directors: 0

Not in favor, Directors: 0

Absent, Directors: 0

DAN PINKERTON
President

DANIEL C. NAUMANN
Secretary-Treasurer

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